THE

# JOURNAL OF GAS LIGHTING.

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## TO CORRESPONDENTS.

J. A., Boness.—*A titlepage and index for Volume II. will be given in December next. Each volume contains two years' Journals.*

C. H. C.—*We believe an experiment on public lighting, upon M. Gillard's system, has lately been made in the Champs Elysés, Paris; and that, in addition to the enormous consumption of gas, a serious objection arose from the constant thefts committed on the platinum cages used in rendering the water gases luminous. We regard the whole affair as, commercially speaking, a failure.*

A Subscriber of £10.—*Apply to Mr. Dethridge, Gerrard-street, Soho. He will doubtless satisfy you as to the appropriation of the amount subscribed.*

W. R.—*Can't do it for the money. Professional men keep their accounts in guineas, not in postage stamps.*

## NOTICES.

Subscribers, who have not remitted their Subscriptions for the past year, are requested to do so without delay, so as to avoid any interruption in their receipt of the Journal.

The subscription is 10s. per annum if paid in advance, or 12s. on credit, payable in two sums of 6s. each, due in June and December of each year. All subscriptions commence from the 10th of January.

All communications and orders for Advertisements to be addressed to the Editor, 32, Bucklersbury, London.

Back numbers exceeding three months' date will in future be charged double price, unless six or more consecutive numbers are taken at the same time. Nos. 6, 15, 18, and 23 are out of print.

The Editor will be particularly obliged by his friends forwarding to him Notices of all Meetings, Trials, or Appeals which it may be interesting to the Gas World to have reported.

## Circular to Gas Companies.

***The Editor may be consulted on all subjects connected with the supply and manufacture of gas, or the alteration and improvement of gas apparatus, and the construction of new works.***

We have received numerous applications for information as to the result of the great experiment, now in course of trial at the London (Vauxhall) Gas Works, with the ovens lately erected there by Mr. Michiels, under Messrs. Pauwel's and Dubochet's patent* for the manufacture of gas and superior coke at the same operation. We confidently relied upon being in a position to reply to these inquiries in our circular of this month; but we must beg our friends to exercise a little more patience in so important a matter. A portion of the ovens have been slowly heating for some weeks past; but, as this is an operation requiring great care so as to prevent any fracture of brickwork intended to be gas-tight, they are not yet reported to be in working order. We are promised an opportunity of examining them when they are perfect, and till then we defer any further observations on the subject.

* See page 321, vol. i., of the Journal.

At the late half-yearly meeting of the shareholders of the Phœnix Gas Company, a reduced dividend, at the rate of 3½ per cent. per annum (in lieu of 4), was declared, and an intimation given that the next might not exceed 3 per cent. This company is affected by the competition of the unfortunate Surrey Consumers' Company, which, though incapable of doing any good for itself, can do much harm to its elder rivals, the Phœnix and South Metropolitan. Let them, however, supply a better article than their opponents, and the current of public feeling will soon turn in favour of the old companies, as it has already done in the City of London. The dividend just declared by the Phœnix Company amounts to about 9¼d. per 1000 feet upon the quantity of gas they are presumed to manufacture.

The determination of the Commissioners of Southport to abandon the use of resin in the production of White's hydro-carbon gas, is another confirmation of the truth of all that has been said in this Journal relative to this impracticable scheme. Let our readers compare the remarks we made in April, 1850, upon a letter which Mr. White then addressed to us, with the correspondence and accounts we now publish in connection with the Southport experiment, and they will find our predictions literally fulfilled. The cost of materials alone, instead of being 3½d. per 1000 feet, turns out to be 2s. 4½d., and the labour and repairs enormously larger than with coal gas—so much so, indeed, that the sale of gas at 7s. 6d. per 1000 feet has been attended with an annual loss of nearly £90, notwithstanding an increase of upwards of 50 per cent. in the last year's consumption. We have, however, a strong suspicion that the quantity of water used has, of late, been considerably diminished. We infer this from the diminished charge for charcoal, in spite of the progressive increase on the quantity of gas sold, as may be gathered from the following abstract of the published accounts:—

| | Nov. 12 1849, to July 18, 1850. | July 14, 1851, to Feb. 12, 1852. |
|---|---|---|
| Gas sold . . . | 804,158 cubic feet. | 1,626,540 cubic feet. |
| Cost of charcoal | £7. 6s. 6d. | £3. 15s. |

It is, therefore, more than probable that the dissatisfaction recently expressed at the quality of this gas may have originated in the attempt to reintroduce a portion of water; and the return to resin alone may account for its present satisfactory quality, and, at the same time, for the excessive cost.

In juxtaposition with the Southport Commissioners' accounts, we give those of the coal gas company in the small town of Odiham, Hants, where the annual revenue from the sale of gas is rather inferior to the six months' revenue of the Southport Commissioners, and where gas coal costs 19s. per ton. Each document tells it own tale, without comment from us.

The attempt to prolong White's system at Southport, by the substitution of Boghead cannel for resin, will, we predict, be equally abortive. The whole process is radically defective, and no amount of skill or care can alter or set aside the laws of nature. Before quitting this subject we may, however, reply to the remonstrances which have been addressed to us relative to the alleged harsh tone in which we have spoken of some of the professional advocates of this system of gas manufacture.

We have a great horror of that class of scientific men who, by a liberal use of the *suggestio falli* and *suppressio veri*, can give any required result to an experiment, or any desired colouring to a report. A man of science should, above all things, work *honestly;* and, if an error or inconsistency is pointed out to him, why should he hesitate to rectify it? We refuse to recognise a true votary of science in any one who is above admitting he is wrong when experience has proved him to be so.

We give an abstract of the proposed act for amalgamating the City of London and Great Central Gas Company into a "City of London Consumers' Gas Company." The capital is fixed at £300,000; and, if the division between the two bodies is to take place according to the terms of the proposed act, the shareholders of the Great Central Company will receive 20s. in the pound, while those of the City Company are to receive but 10s. The former company has issued 15,000 £10 shares, and has half of the capital of the new company allotted to it; the City Company is formed with 2000 £150, and receives in lieu thereof only 15,000 £10 shares. The firmness of the Chartered Gas Company, in remaining aloof from such a combination, entitles them not only to the gratitude of the public, but to the thanks of their shareholders.

## THE LOW-PRICED GAS MOVEMENT.

The antiquarian and mediæval studies of our excellent contemporary, *The Builder*, have certainly not entitled it to be set up as an oracle on any question of manufacturing economy; nor are we disposed to accept its judgment, although pronounced *ex cathedra*, on a matter involving something more than an intimate acquaintance with plinths and pediments, crypts and crosses, ogive arches and ogee mouldings, or other of the many subjects within its ligitimate sphere, upon which it so usefully enlightens its numerous readers. Joining the crusade against the nominal price of gas, irrespective of any consideration as to the quality of the article supplied, and discovering at length that low-priced gas may, after all, be very dear gas, it changes its tactics, and in the following passages, seeks to fix upon us the charge of upholding high prices in the "supposed interest of the old gas companies," and attempts to pledge us to the "*negative* inference which the question we put would tend necessarily to evoke on the public mind":—

"Our contemporary, the JOURNAL OF GAS LIGHTING, which, though decidedly in the *supposed* interest of the old companies to uphold high prices, appears to be entitled to consideration as a temperately conducted publication, calls our special attention to the complaint of Messrs. Tallis, as a proof that cheap gas must necessarily be bad, and dear gas good. That journal knows quite as well as we do that it is far too late, now that so many proofs of what gas *can* be made and sold for here and elsewhere have been adduced, even to characterise gas sold in the metropolis at 4s. per 1000 cubic feet as 'cheap' gas in the sense implied, even sold as it is of admittedly good quality at that price by the Chartered Company, who, according to the GAS JOURNAL itself, are likely to profit by their determination to give a good article at the price. So far from supporting the so-called Central Gas Consumers' Company, however, we wish it to be distinctly understood that we regard that company as having sold itself out and out to the upholders of high prices; and what could be anticipated from such a fact, but that some immense and glaring system of jugglery would be practised in order to damage the movement in favour of cheap and good gas? If such a conclusion should appear to reflect unjust suspicion on individuals still connected with such a company, whom they have to blame but themselves, in continuing to have anything to do with it after it had displayed even its first symptoms of an inclination to amalgamate and identify itself with the very cause of dear gas and bad, for which it was to have substituted cheap gas and good?"—*Builder*, Feb. 21.

"We have been favoured by Messrs. Tallis with a letter in which they explain that they had no intention, in the pamphlet lately noticed in our columns, to infer that low-priced gas was invariably or necessarily dear gas, although their facts and figures went to prove that the gas supplied by the Central Consumers' Company was bad. Messrs. Tallis do not deny that much dear gas is also bad, and they complain that we misconstrued their meaning altogether, in supposing that they wished to advocate the cause of dear gas. We are glad to find that they thus appear to regard the movement in favour of cheap and good gas as a practicable and a reasonable one. As to our misconstruction of the purpose implied in the title to their pamphlet, 'Is Low-priced Gas Cheap Gas?' it appears that Messrs. Tallis merely, but, we think, unfortunately, adopted that title from the JOURNAL OF GAS LIGHTING—a journal entirely in the interests of the old companies, who erroneously imagine that their prosperity is necessarily connected with dear gas, although their own parliamentary returns clearly prove the very contrary. An article, with the title in question, had appeared in the GAS JOURNAL, and Messrs. Tallis simply adopted it as a connective link in a cognate question, overlooking, we presume, not only its origin, but the *strongly negative* inference which such a question, put in such a way, would tend universally to evoke in the public mind. The negative strength implied in an affirmative *question* is well known, and hence, in the present instance, its adoption in the journal of the upholders of dear gas. Messrs. Tallis, we must add, complain of the illuminating power of the Central Consumers' Company's gas, as well as of its heating power, being inferior to that of the Chartered Company, but, according to their own statement, 'the consumption was enormously increased' in the department where heat was required."—*Builder*, March 6.

We beg leave to say that we are as free and unfettered as *The Builder* in our advocacy of what we conceive to be the real interests of the public in this question; and having neither shares nor interest in any gas company whatever, whether old or new, nor any engagement tending to warp our judgment in a matter with the bearings and details of which we believe ourselves to be more practically acquainted than our contemporary can possibly be, we repudiate its charge of being in the interest of the old companies. We have uniformly advocated the cause of cheap gas light, which we presume has also been the intention of our contemporary, though we have maintained, and it is now proved, that the low-priced gas advocated by our contemporary does not necessarily accomplish the object we have both had in view. Our principle has been to call upon gas companies to improve the quality of the article they supplied, rather than to lower its price. The metropolitan public would have been gainers had they agitated for gas at 6s. per 1000 feet of such a quality that 500 feet would have given the same light as 1000 feet of that which they have forced gas companies into supplying at 4s., and the latter would not have been injured by the change. Our contemporary need not extend its inquiries beyond Regent-street to receive ample confirmation of the correctness of our views. It will there find four companies located, two of them, the Chartered and the Western, supplying gas of such quality that 1000 feet will feed a burner, giving the light of twelve standard sperm candles, for some 400 hours, at a cost of 5s. 6d. or 6s.; and two other companies, where the same quantity of gas will, at a cost of 4s., yield a similar light for 200 hours only. In the former case the expense to the consumer is $\frac{18}{100}$ths of a penny per hour per burner, and in the latter, $\frac{24}{100}$ths of a penny, showing an advantage in favour of the rich gas of twenty-five per cent. over its low-priced rival. If the inquiry is extended to Liverpool, Glasgow, and other large provincial towns, enjoying the advantages of gas of high illuminating power, it will produce similar results. At Liverpool the price is 4s. 6d., and 1000 feet of gas will feed a burner, giving the light of twelve candles, for 333 hours, at a cost of less than $\frac{17}{100}$ths of a penny per light per hour; and at Glasgow, where the price is 5s., the same quantity of gas will similarly serve for 500 hours, at a cost of only $\frac{12}{100}$ths of a penny per light per hour.

We need scarcely add that the materials from which gas of the qualities above alluded to is manufactured are more costly than those employed for the production of the gas sold at 4s.; indeed, it is only within a few years that, through the opening of railroads and other new channels of transport, they have been made accessible to the metropolis at a sufficiently moderate price to allow of their being used at all for the production of gas. Two years since, we remarked, "Had the leaders of the gas movement offered to the citizens of London a supply, not of twelve-candle gas (for the five-feet burner) at 4s. per 1000 feet, but of twenty-candle gas at 6s., they would have been deserving of the thanks of their fellow-citizens, and earned for their shareholders a fair interest upon their capital;" and subsequent events have given us no cause to modify the opinion we then expressed.

# Communicated Articles.

*(The press of other matter compels us to defer the continuation of "The Chemistry of Gas Lighting" till next month.)*

## HISTORY OF THE MANUFACTURE OF WATER GAS.

*(Continued from page* 264.)

Next in the order of succession, as a water gas claimant, we find a patent by Mr. Croll, of the date Aug. 22, 1848, and, consequently, prior to the second patent of White. This patent of Mr. Croll relates to two claims; the first of which has reference to the manufacture of gas by retorts fed at one end, and does not, therefore, come within the scope of our history. The second claim, however, is "for passing steam through carbon at a bright red heat, and then causing it to pass over or amongst the charge of coal, which is being distilled in a retort. The patentee prefers to use a single retort, which he charges with coke at the end most distant from the rising pipe, to which end he also applies a pipe for introducing steam, and at the other end of the retort he introduces a charge of coal every five hours, allowing the steam to play for three hours after the introduction of each charge of coal. He finds that 15lbs. of water will do for one ton of Newcastle coals, but, when cannel coal is used, a larger quantity is needed. He does not, however, confine himself to this proportion, the object being to obtain a larger quantity of gas of a fair illuminating power, and a smaller quantity of tar." The principle here attempted to be

claimed is manifestly that of Manby, which, it will be remembered, consisted "in passing steam into a retort containing anthracite, charcoal, coke, or bituminous coal, heated to a lively red heat;" if, therefore, this patent had really proved useful in practice, its operations would have been rendered nugatory by the previous patent of Manby. Like that patent, however, it seems to have failed most unequivocally, and precisely for the same reason, viz., that the vapour of water or steam was allowed to mingle with the illuminating hydrocarbons at a red heat, and thus destroy them, exactly as happened in Val Marino's case, in spite of the precautions intended to ensure a contrary result, and which must also have the same destructive tendency in the instance of Radley or White.

Croll's patent was tested with great care at the Royal Mint, by Messrs. Brande and Cooper; and we cannot do better than give an extract from the report of these eminent chemists, as it is really a kind of synopsis of the scientific merits of the whole subject of water gas under those circumstances where the steam is permitted to reach the nascent illuminating gases:—"Our attention," say Messrs. Brande and Cooper, "was especially directed to the influence of the vapour of water, sent into the charged retort at a bright red heat, upon the quantity and quality of the gas derived from different kinds of coal.

"The quantity of coal operated upon in each experiment was 168lb.; and 11¼lb. of water was converted into vapour, and transmitted over a body of coke, kept at a bright red heat, and equal in bulk to the charge of coal employed.

"The following is a tabular view of the results of these experiments:—

| Qualities of Coal. | Cubic feet of gas produced by each ton of coal. | Specific gravity of gas. | Illuminating power in sperm candles, consuming 132 grains per hour. |
|---|---|---|---|
| Small .. .. | 10,133 .. .. | 0·374 .. .. | 3 to 4 |
| Ditto .. .. | 11,360 .. .. | 0·375 .. .. | 2·5 |
| Peareth .. .. | 10,173 .. .. | 0·386 .. .. | 4·75 |
| Ramsay's Cannel | 12,586 .. .. | 0·414 .. .. | 7· |

"In all the above experiments the illuminating power is calculated upon a consumption of 5 cubic feet per hour in an argand burner of 15 holes. Fifteen gallons of water, the quantity we were directed to use in the form of steam for each ton of coal, would, if converted into pure hydrogen and carbonic oxide gases, yield 3134 cubic feet of hydrogen, and 3134 cubic feet of carbonic oxide; so that upon this assumption the ton of coal, yielding on an average 9000 cubic feet of coal gas, would be increased to 15,268 cubic feet, supposing all the steam to be decomposed and resolved into those gases. But, if it be assumed that the hydrogen is converted into light carburetted hydrogen, in that case the bulk of the hydrogen would be diminished one half, 3134 cubic feet of hydrogen being condensed by combination with carbon into 1567 cubic feet; so that the 9000 cubic feet of coal gas would be increased in that case to 13,701 cubic feet. But it is evident from the above experiments that a large proportion of the water must escape decomposition, inasmuch as the volume of gas actually produced falls far short of this estimate. On the other hand, it is also obvious that the increase of bulk actually sustained by the gas is attended by a great diminution of specific gravity and illuminating power; and that, if the whole of the water had been decomposed, the illuminating power would have fallen to a much greater extent; *so that it is quite obvious that, in proportion as the quantity of gas is increased by the decomposition of steam, its quality is proportionately diminished.*"

We fancy that it would be difficult to find a more candid and temperate deduction from the results of a direct experimental essay than is contained in the above quotation, for in reality the facts warranted a much more unfavourable conclusion, as, taking the case of Ramsay's cannel for example, the loss of luminiferous matter has far exceeded that due to the increased bulk of the gas obtained according to the acknowledged value of this particular coal. On a low estimate Ramsay's cannel may be assumed to give 9000 cubic feet per ton of gas, having in 5 cubic feet an illuminating power of 25 candles, consuming 132 grains per hour each; and, if we suppose these 9000 cubic feet expanded by a non-luminous gas to the bulk of 12,586 feet, still this would yield for the value of such gas 17·87 candles of 132 grains, and not merely 7, as found by Messrs. Brande and Cooper. Similarly the specific gravity seems to have suffered out of all proportion with the increase of bulk, and fully confirms the truth of our previous observations.

We now come to the patent of Webster. This patent is dated February 12, 1850, and is for "improvements in the manufacture of coal gas, and improvements in the manufacture of gas from resin." As heretofore, we give the words of the patentee, which are follows:—

"Three retorts are arranged and combined with other apparatus according to the first part of my invention.

"Two of these are from time to time to be charged with coal, as in the ordinary manner of making coal gas in retorts; near the back end of each of these retorts there is a partition of sheet metal, which is perforated with numerous holes near its outer circumference, and the space at the end of each retort is filled with pieces of iron and blacklead in powder; a boiler, or closed vessel, containing water, is placed at the upper part of the stack of retorts, provided with a safety-valve, and having a pipe for filling the boiler, when the water is supplied; the pressure at which steam is generated is only slightly above that of the atmosphere. Two pipes lead from the boiler to the back end of the retorts, so that the steam will pass amongst the heated iron and blacklead before reaching the coal; the effect will be, that the retorts will become quickly coated with blacklead, and the use of steam will not injure the interior surfaces of the retorts; and the object of using steam is to aid in carrying off the gas as quickly as it is evolved, and the gas from the two retorts will pass into the small empty retort, by which some products which might be condensed will be ensured being converted into gas, which will pass off at the pipe, and thence through the tubes or pipes, and leave to the gasholder any condensed matters depositing in the vessels. The peculiarities of this part of the invention consist of the mode of applying steam, blacklead, and the additional retort through which the products from the charged retorts pass.

"I will now describe the second part of my invention. This apparatus is very similar to what has before been employed in the manufacture of gas from resin, there being three retorts, two of which are regularly supplied with melted resin from a vessel, and steam is supplied from another vessel, similar to what has been above described in respect to making gas from coal; but, in place of the steam passing in at the ends of the charged retorts, it passes into the additional retort, which is charged at its two ends with broken pieces of iron, and between them there is a quantity of blacklead powder mixed with broken pieces of iron; and the steam being passed through this retort and the heated matters, then it passes into the two retorts where gas is evolved, and it is the using of blacklead, and causing steam to pass amongst the same, which constitutes the novelty of this part of my invention.

"Having thus described the nature of my invention, and the manner of performing the same, I would have it understood that I do not confine myself to the precise details, so long as the peculiar character of either part of my invention be retained.

"But what I claim is,

"First, the improvements in the manufacture of coal gas, herein described; and,

"Secondly, I claim the improvements herein described for manufacturing gas from resin."

We are compelled to admit our inability to discover in the above description anything like an improvement or original invention as regards the manufacture of gas either from coal or resin. The object of using the blacklead is, it appears, to coat the surfaces of the retorts, so that, according to the patentee, they will resist the action of the steam. The correctness of this assumption is, to say the least of it, extremely problematical; but, even if we are willing to concede this point, there is an important practical fact, which serves to show that this use of blacklead is totally superfluous, for the unprotected retorts employed by White and others have not been found to wear out with any extraordinary rapidity; and again, as we have before remarked, the mere dusting on a thin layer of loosely adhering plumbago upon the surface of cast iron can scarcely have any influence in preserving the red-hot metal from contact with the aqueous vapour. But blacklead, like all other forms of carbon, is acted on by steam at a high temperature; and, even supposing a coat of plumbago well and thoroughly applied to the internal surface of a retort at the commencement of an operation, this would vanish in a very few minutes under the influence of red-hot steam, and thus leave the metal quite unprotected. It appears that the "object of the steam is to aid in carrying off the gas as quickly as it is evolved;" but, if this be the whole use of the steam, what shall we infer from the employment of "pieces of iron with the blacklead," and of what utility is the third or empty retort? Is it, in fact, anything but another name for Radley's "resolving sphere?" As regards the asserted improvement in manufacturing of resin gas, it is most decidedly a clumsy, and a very clumsy, attempt to evade the patent of White. The only trial of the system made at a public gas work has been made at Rugby, on the "no cure no pay" principle, and terminated in a signal failure. The introduction of black lead with the scrap iron is a mere subterfuge, and, like the well-washed pebbles in the flint soup, will do neither good nor harm, farther than by decomposing a portion of water less rapidly and efficiently than the coke and charcoal of White, Val Marino, and others. It would surprise us much to learn that a patent like this could be worked as to resin without a licence from previous original patentees; in point of fact, however, Webster's patent includes the same fatal objection illustrated by Messrs. Brande and Cooper, in their experiments with Croll's system. We need not, therefore, dwell upon its peculiarities, or its "hairbreadth" escapes from infringement.

The latest patent connected with what has been called the water-gas system of procuring illuminating gas is that of Messrs. Barlow and Gore, bearing date the 5th of April, 1851, and with a brief notice of which we shall, therefore, close our present history.

The patent process of Messrs. Barlow and Gore differs in one important feature very materially from all those which have preceded it, and, so far as theoretical considerations warrant a conclusion, the result must be deemed a decided improvement. In point of fact, we have heard that this is actually the case in practice, and that the

application of this process has given the most unqualified satisfaction at one of the large London gas works. But, in matters of this kind, time alone can give solidity to the fairest promises, and it is not until long-continued working on the large scale has thoroughly demonstrated the worth of the scheme, that either the real merits or defects of any such invention can be viewed with perfect safety. Nevertheless, as it is our province to investigate the principles implicated in such inventions, and, by observing in what respect they differ from or are consonant with the right rules of science, to form a judgment of their ultimate value, we do not hesitate on the present occasion to offer an opinion in advance of practical knowledge, regarding the probable application of the system patented by Messrs. Barlow and Gore.

In commenting on the cause of failure incidental to the processes of Manby, Val Marino, and others, it may be said that a previous knowledge of failure had not only justified, but given birth to our animadversions or commendations in each respective case. This, however, cannot be assumed in the instance of Messrs. Barlow and Gore's patent. If, therefore, we have all along condemned a certain practice to which every previous patent is obnoxious, and can now show that a patent has been taken out which carefully excludes that practice, then the only inference to be deduced is that, if our objections are correct, the new system must be, as we have declared it, an improvement on its predecessors. Now, we have uniformly attributed the cause of failure in the employment of water gas to the simultaneous introduction with this gas upon the substance to be carbonized, of a quantity of aqueous vapour or steam. And, if our observations be carefully examined, it will be seen that this is the point against which all our condemnation has been directed. In the patent of Manby it is excessive; in that of Val Marino it is ineffectually sought to be guarded against; in all subsequent patents, except that of Messrs. Barlow and Gore, it exists uncontrolled and unnoticed. But in that of Barlow and Gore it is specially provided against, and completely prevented. Herein, then, lies the true difference; and an enormous difference it is, when the result is taken into account. For this purpose let us imagine a quantity of olefiant gas or other hydro-carbon, which, at a red heat, has a disposition to part with a portion of its carbon from the unequal expansibility by heat of its hydrogenous constituent. Under such circumstances there is the greatest possible tendency for the nascent carbon to take on new chemical combinations. Thus, if iron be present, it will unite with the iron and form steel; if ammonia be present, it will produce cyanogen or hydrocyanate of ammonia; and, if water or steam exists, it will combine with the oxygen of the water, and give rise to carbonic oxide and free hydrogen. It is this latter fact which necessitates the exclusion of steam from the water gas employed to preserve and economise the luminiferous ingredients of coal under distillation; for, without this precaution, the photogenic agents liberated from the coal are rapidly decomposed into substances which, though eminently combustible, do not in burning throw off any appreciable amount of solid carbon, and have consequently little or no value as producers of light. In point of fact it may be safely laid down as an axiom, that the admission of oxygen gas in any other form than that on which it exists in carbonic oxide, upon or over coal or other similar substance during its distillation at a red heat, cannot fail to prove injurious to the resulting gas as a light-giving agent. Not only, therefore, must steam or the vapour of water be excluded at such a time, but, moreover, carbonic acid is also especially to be guarded against; for the conversion of this gas into carbonic oxide is, equally with steam, fatal to the preservation of those gaseous and vaporous hydro-carbons that give value to coal gas.

It will be seen from the subjoined extract that these two important conditions are embraced in the patent of Messrs. Barlow and Gore; and that, according to the system invented by these gentlemen, neither steam nor carbonic acid can reach the coal under distillation. How far practical difficulties may interfere with the successful employment of these principles, it forms no part of our present business to inquire; but we have no hesitation whatever in declaring these principles perfectly correct, and in accordance with the best-established scientific knowledge of the day. For the rest, Time will not fail to give his unerring testimony; meanwhile, in accordance with our invariable custom, we let the patentees speak for themselves:—

"It will generally be found most advantageous to manufacture the mixture of hydrogen and carbonic oxide gases in separate retorts devoted to that purpose, instead of adopting the alternating system hereinbefore described. In this case the steam is first passed through a retort or retorts charged with coke or other solid residue of the distillation of the substances above mentioned, or other solid carbonaceous material, from which the gas has been extracted, either in their natural state, or sprinkled with a solution of carbonate of soda or carbonate of potash; and the resulting mixture of gases and steam is then passed through a condenser or cooler, so as to remove the excess of steam, and the gas is then deprived of its carbonic acid by passing it through another heated retort or retorts containing coke or other suitable residue. When gas is required merely for heating purposes, the process may be stopped at this point; but when gas for giving light is required, the mixture of hydrogen and carbonic oxide thus obtained is then conveyed into another retort or retorts, in which fresh charges of coal, cannel, bituminous shale or schist, asphalte lignite, resinous earth, or other similar substances or mixtures of the same, are undergoing distillation, or in which tar, melted resin, resin oil, oils, fatty liquids, or other liquid or fusible hydro-carbons are undergoing decomposition. The quantity of the mixture of hydrogen and carbonic oxide employed, must depend upon the richness of the coal or other carbonaceous material undergoing decomposition, and on the illuminating power of the gas required to be produced."

## PRIZE FOR INVENTIONS IN ELECTRICITY.

The President of the French Republic has lately promulgated a decree, by which philosophers of all nations are invited to compete for a prize of £2000, to be awarded to the person who shall successfully apply to practical use one of the many known, but hitherto commercially useless, properties of the electrical agent.

It is now nearly 50 years since when Volta, starting from a false idea, piled a series of copper and zinc discs in a moistened cloth, one upon the other, but always in the same order, and thus formed an apparatus endowed with the then novel property of charging itself spontaneously with the two varieties of electricity, and discharging them at its extremities. Unlike the old electrical machine, the glass plate of which required to be turned and electricity excited by friction against the cushions before a spark could be obtained, the pile, or battery, which Volta had just invented astonished all the world by its property of giving at the same moment the two species of electricity—positive from the positive pole, and negative from the negative pole.

The opposite extremities of this battery furnishing the electric fluid in inexhaustible quantities, the idea struck Volta to unite them by a metallic wire; and the apparatus thus entered into a new stage of activity. However rapid might be the discharge, the battery charged itself more rapidly still; and, instead of a momentery flow such as produced the spark of the old machines, a permanent circulation of the electric fluid was established through the connecting wire, and thereby Volta first obtained what is appropriately called the *electric current*.

Too weak, however, to show what it was capable of accomplishing, the electric current acquired by degrees, in other hands, an increasing intensity consequent upon improvements made by Volta's successors in the batteries employed. His apparatus consisted of nothing but two conducting bodies separated by a liquid acting chemically upon each of them, and this is all that has been retained of the original; for, in abandoning the form adopted by the illustrious physician, we have only applied ourselves to extending the surfaces, and to prolonging and exciting the chemical action. Thus, at the present day, instead of *piling* the materials in columnar form, we prefer to immerse them in horizontal vessels, filled beforehand with powerful acids. Our neighbours, following tradition, still retain the name of the "*pile*," instead of adopting that of battery, as it recals the original form of the instrument now become of such importance; but all nations continue to give the name of "*poles*" to the two terminal plates of the series, however numerous it may be.

With the modern batteries, formed of plates of carbon and zinc, plunged into nitric or sulphuric acid, currents of electricity are obtained, which, flying between the two polar extremities of the connecting wire when brought within a short distance of each other, produce a mass of heat and light immeasurably superior to those of all other terrestrial sources. Similar currents, shot through hundreds of miles of conducting wires, still retain sufficient strength to render magnetic the softened iron which is the soul of the electric telegraph; passed through metallic solutions, they separate the metal into thin coherent plates of different thicknesses; and there are few physiological fancies produced by their discharge, and fortified by extraordinary artifices, which it has not been attempted to bring to bear upon paralysis and other nervous affections.

All these phenomena now occupy the public attention. We see with the same interest a slender wire conducting the electrical principle and setting heavy machines in motion, or reducing the most refractory metals into pearls of fire. We follow with a curious eye these assemblages of luminous rays projected to such a distance by the electric lamp; and we admire those aqueous solutions which, though cold, deposit gold or silver upon the objects touched by the magic wire.

But in a commercial point of view, where all is regarded calmly yet severely, and everything counted and weighed, all these wonders are not equally ripe. Gilding, silvering, and the telegraph, are uses conquered to us; while electric lighting, and the application of its intense heating and stupendous motive powers, have yet to be economically realised. The physician even still doubts whether any benefit is derived by directing galvanic currents through the living body. It is to hasten the birth of the produce of these fruitful seeds that the French President offers a reward of £2000 to whoever shall, within five years, have most energetically advanced towards success. By the terms of the decree, a commission is to be named which shall be charged with the examination of the discovery of each of the candidates. This will be, doubtless, a delicate mission to fulfil. Whatever impulse may be given to this

description of research, none can be answerable whether the march of the human mind, launched out for the conquest of natural forces, may be regular or erratic, progressive or interrupted. It may happen that the most remarkable discovery destined to be made within the period fixed, shall not be embraced within the limits of the competition, when its terms are rigorously construed. In such case let us hope the commission will be the interpreters rather of the spirit than of the letter of the decree; to do otherwise would be to restrain with one hand the stimulus which the other is attempting to incite.

## APPOINTMENT BY THE CITY OF LONDON OF A CHEMIST TO TEST GAS.

When we alluded to this subject two months ago, we were not aware that the appointment of a gentleman of the high character of Mr. Brande had already taken place. It appears, however, that at the close of the sitting of the Common Council of Dec. 18, Mr. Deputy Harrison—whose devotion to the interests of the Great Central Gas Company is well known—proposed Dr. Leeson (a name which figured on the original prospectus of the company as one of the "chemical referees," and whose evidence on the company's bill was given at length in our last number) as a fit and proper person to be appointed by the corporation to the promised office. An independent member of the court protested against such a nomination, and on the spur of the moment proposed Mr. Brande, who was accordingly elected. No notice of the proceedings was taken in the newspaper reports of the sittings; and it would appear as if these undergo some pruning process when anything transpires which it does not suit the "powers that be" should become public. The hope of finally nominating Dr. Leeson was, however, not abandoned, and we are able to give an insight into a portion of the intrigues by which it was expected his election might still be carried.

Rumour says the doctor himself represented to Mr. Brande that the office had been promised to him, and that he hoped, under the circumstances, he would not accept it. For the accuracy of this we do not vouch, but for what follows we pledge ourselves.

Early in January, a communication from the secretary of the Great Central Gas Company was addressed to Mr. Brande, acquainting him with the fact that he had been appointed by the corporation to test the quality of the gas suplied by their company, and inquiring whether he was disposed to accept the office. Mr. Brande naturally inquired something about the duties and emoluments. To this an answer was returned, stating in substance that he would have to test the gas weekly, or oftener, if deemed requisite, at all hours of the night, and to report the results to the board; that he must do this personally, and not by deputy; and that the remuneration paid to the gentleman now fulfilling the same duties was 50 guineas per annum. Mr. Brande at once intimated to the company his determination to decline the appointment on such terms; but it was not till some time after such intimation had been given that the corporation officer, the town clerk, officially notified to him the fact of his having been elected. The election took place on December 18, and the official announcement was delayed till early in February, apparently for no other purpose than to allow of measures being taken for ensuring his refusal of the unsought-for honour.

The ground was now sounded as to Dr. Leeson's chances, but found too unstable to ensure success. It consequently became requisite to hunt up another presentable candidate. Our advocacy of the cause of Mr. Lewis Thompson was stated to be an insuperable bar to his being accepted on any terms. A sham requisition was got up to Dr. Miller, of King's College, who issued a real address in consequence, but, from some cause or other, beat a speedy retreat. Professor Graham's name was never mentioned. At last Dr. Letheby, of the London Hospital, was prevailed upon to allow himself to be put in nomination, on condition that the testings should take place monthly instead of weekly, as proposed to Mr. Brande, and that the fee should be increased from 50 guineas to £100, with liberty to consult his own convenience as to the times when the trials should be made. The complaisant Court of Sewers ratified this bargain, as will be seen from our report, and Dr. Letheby was finally elected on the 27th ult., after a fruitless attempt to impose upon him the same conditions which were attempted to be imposed on Mr. Brande.

What Dr. Letheby's qualifications are for the office to which he has been appointed, we have no means of judging; he has not, to our knowledge, been before the public on any question relating to the illuminating power of gas; but we are informed by those who know him, that he is an upright, honourable man, and will not designedly mislead his employers. We will aid him in his operations, as far as we are able, by publishing monthly a complete list of other experiments on all the gases supplied in the city of London; and it will not be our fault if the gas companies fail to use the citizens of London as honestly as they are bound to do by their engagements.

There is, however, one point in connection with this subject which we feel bound to comment upon. The chairman of the Great Central Company publicly denied that 50 guineas, or any other sum, had been proposed to Mr. Brande as the remuneration for the office to which he had been elected by the corporation, and it was not till Mr. Brande's confirmation of the rumour was exhibited that he would admit any communication whatever had taken place between that gentleman and the company he presides over. The denial hangs on the difference between the intimation that the present occupant receives the remuneration above mentioned, and an absolute tender of a similar amount to his intended successor—a distinction to which the designation of "sharp practice" may be very justly applied by straightforward men of business.

An episode of inconvenient engagements, quietly smothered, was mentioned at the late sitting of the Common Council. The Corporation took the same course with the appointment of auditors which it did with that of chemist, and, rejecting the nominees of the company, appointed in their stead two highly-respectable accountants, who are now engaged in auditing the accounts, with an inconvenient amount of minuteness, receiving, under a clause of the present act, three guineas per day for their services. The amalgamation act now in Parliament substitutes a fixed sum of five guineas for each auditor for the daily fee above mentioned, although there will be two sets of accounts to audit instead of one.

## REPORT ON THE MANUFACTURE, COMPOSITION, AND ILLUMINATING POWER OF HYDRO-CARBON GAS.

(*Continued from page* 251.)

It has been supposed that the gases produced by the hydro-carbon process have, to some extent, the nature of naphthalised gases, and that, therefore, when allowed to stand for some time in the holder, and especially when exposed to a freezing temperature, their illuminating power would be much deteriorated. It was of importance carefully to ascertain the value of this objection, and I therefore allowed a specimen of the Boghead hydro-carbon gas to stand over water in a holder for 48 hours; but at the expiration of that time its illuminating power had not suffered the least deterioration. Another specimen, allowed to stand in the holder for three weeks, had scarcely suffered an appreciable loss. I then exposed various specimens of gas to the temperature of melting ice for several hours. The usual mode of doing this, by allowing the gas to stream through a serpentine pipe surrounded by ice, is nearly valueless, since the temperature of the gas does not become reduced to 32° unless the tube be inconveniently long and the stream very slow; and, if any hydro-carbons are condensed, they have not time entirely to deposit, but a portion is carried forward in the vesicular condition until, on emerging from the refrigerator, it is again gasified by the increasing temperature. To avoid these errors an apparatus* was employed in the following experiments, by means of which the volume of the gas, saturated with watery vapour, and at the temperature of about 60° F., could be accurately ascertained, and the gas then transferred without loss into the refrigeratory, where it was exposed to 32° for not less than one hour. It was then transferred into the measuring portion of the apparatus, the pressure upon the gas being constantly preserved equal to that of the external atmosphere; when the gas had become perfectly re-saturated with watery vapour, its volume at 60° F. was again ascertained; the difference gave the loss of hydro-carbons in the refrigerator. I have not submitted all the gases to this test, but it has been applied to a sufficient number to show that those made by the new process, so far from losing more illuminating materials by exposure to cold, lose in all cases less than the corresponding gas made by the usual process from coal alone. The following are the results of these experiments:—

| Name of Gas. | Cubic feet of Hydro-carbons condensed from 100 cubic feet of Gas, on exposure to a cold of 32 deg. F. |
|---|---|
| Boghead .. .. .. .. .. .. | 4·42 cubic feet. |
| Ditto with water gas .. .. .. | ·24 „ |
| Methyl .. .. .. .. .. .. | ·33 „ |
| Ditto with water gas .. .. .. | ·07 „ |
| Ince Hall .. .. .. .. .. .. | ·37 „ |

There is little doubt that all descriptions of coal gas experience some loss of illuminating principles on exposure to a cold of 32°, but the gases richest in hydro-carbons will lose generally the largest proportion, and hence the advantage of diluting such gases, so as to afford more space for the vapours of these hydro-carbons, and thus prevent their condensation. This advantage is seen most strikingly in the behaviour of Boghead gas, with and without water gas, when exposed to the ice-test. The difference in the case of Lesmahago would probably be still more striking, as, from the much greater density of its hydro-carbons, it might be expected to lose a large proportion when submitted to the ice-test in its pure state.

The per centage amount of olefiant gas contained in the Pelton gas, and the gases of the Great Central and City of London Companies, would lead us to infer that their illuminating power is much lower than is really the case; for, according to the experiments upon cannel gases, it appears that, when a consumption of 5 feet per hour produces a light equal to 20 candles, the gas contains 13·72 per cent. of olefiant gas, or its equivalent in richer hydro-

* This apparatus will be fully described along with the one used for the analysis of the gases.

carbons; and, hence, we should expect that a gas containing only half this amount would, when burnt at the same rate, produce a light equal only to 10 candles, instead of 13, as is found to be the case; this excess of illuminating power in the case of coal gases over that indicated by analysis is probably owing to the presence of luminiferous constituents, not condensible either by fuming sulphuric acid, or by chlorine; the nature of these constituents, and the cause why they cannot be detected by our present methods of gas analysis, I have already pointed out ("Journal of Chemical Society," Vol. III., p. 42). The following table exhibits this difference between the value of olefiant gas in coal gas, compared with that in cannel gas, and shows also that, in the case of the latter, the illuminating power is always directly proportional to the amount of olefiant gas to which the per centage of condensible hydrocarbons is equivalent. The establishment of this rule, with regard to gases, having such different per centages of light carburetted hydrogen as the Boghead gas, with and without water gas, I hold to be conclusive evidence that light carburetted hydrogen has no higher illuminating power than hydrogen or carbonic oxide.

Value of one cubic foot of the olefiant gas contained in the following gases, expressed in sperm candles, each burning 10 hours, at the rate of 120 grs. per hour:—

CANNEL GASES.

| | |
|---|---|
| Ince Hall cannel .. .. .. | 2·95 candles. |
| Ditto with water gas .. | 2·96 „ |
| Boghead cannel .. .. .. | 2·80 „ |
| Ditto with water gas .. | 2·86 „ |
| Lesmahago cannel .. .. .. | 2·58 „ |
| Ditto with water gas .. | 2·54 „ |
| Ramsay's Newcastle cannel .. .. | 2·88 „ |
| Ditto with water gas .. | 2·86 „ |
| Methyl cannel .. .. .. | 3·04 „ |
| Ditto with water gas .. | 3·03 „ |

COAL GASES.

| | |
|---|---|
| Pelton coal .. .. .. .. | 4·23 candles. |
| City Company's Gas (coal) .. .. | 3·73 „ |
| Great Central Company's Gas (coal) | 3·91 „ |

SUMMARY OF EXPERIMENTAL RESULTS.

| Name of Coal. | Cubic feet of Gas per ton. | | Illuminating power per ton, in Sperm Candles. | | Gain per ton by White's process. | | Gain per cent. by White's process. | |
|---|---|---|---|---|---|---|---|---|
| | By old process. | By White's process. | By old process. | By White's process. | Quantity of gas in cubic ft. | Illumin. power in sp. candles. | Quantity of gas. | Illuminating power. |
| Wigan cannel, Ince Hall.... | 10,900 | 16,120 | 4,816 | 6,448 | 5,220 | 1,632 | 47·9 | 33·9 |
| Wigan do., Balcarres.... | 10,440 | 15,500 | 4,156 | 5,920 | 5,060 | 1,764 | 48·5 | 42·4 |
| Boghead cannel..... | 13,240 | 38,160 | 11,340 | 21,368 | 24,920 | 10,038 | 178·2 | 88·4 |
| Do. 2nd experiment... | .. | 51,720 | .. | 20,688 | 38,480 | 9,378 | 290·6 | 82·4 |
| Lesmahago cannel..... | 10,620 | 29,180 | 7,620 | 13,934 | 18,560 | 6,314 | 174·8 | 82·8 |
| Methyl cannel..... | 9,560 | 26,400 | 5,316 | 11,088 | 16,840 | 5,772 | 175·2 | 108·6 |
| Newcastle do., Ramsay.. .. | 10,300 | 15,020 | 5,046 | 5,646 | 4,720 | 600 | 45·8 | 11·2 |

TABLE,

Showing the quantity of coal or cannel requisite for producing light equal to 1000 sperm candles, each burning 10 hours, at the rate of 120 grains per hour.

| Name of Coal. | Weight of Coal. | |
|---|---|---|
| | By old process. | By White's process. |
| Wigan cannel (Ince Hall) .. .. | 465·1 lbs. | 347·4 lbs. |
| Wigan cannel (Balcarres) .. .. | 539·0 „ | 378·4 „ |
| Boghead cannel .. .. .. .. | 197·5 „ | 104·8 „ |
| Lesmahago cannel .. .. .. | 293·9 „ | 160·7 „ |
| Methyl cannel .. .. .. .. | 421·4 „ | 202·0 „ |
| Newcastle cannel .. .. .. .. | 443·9 „ | 396·7 „ |
| Newcastle coal (Pelton) .. .. | 745·7 „ | — |

In conclusion, the advantages resulting from the application of Mr. White's hydro-carbon process to coals and cannels may be thus summed up:—

1. It greatly increases the produce in gas from a given weight of coal or cannel, the increase being from 46 to 290 per cent., according to the nature of the material operated upon.

2. It greatly increases the total illuminating power afforded by a given weight of coal, the increase amounting to from 12 to 108 per cent., being greatest when coals affording highly illuminating gases are used.

3. It diminishes the quantity of tar formed, by converting a portion of it into gases possessing a considerable illuminating power.

4. It enables us profitably to reduce the illuminating power of the gases produced from such materials as Boghead and Lesmahago cannels, &c., so as to fit them for burning without smoke and loss of light.

5. In addition to these positive advantages, the use of this process does not incur any additional expense in the working of the apparatus, the wear and tear of retorts, or the purification of the gas; and, beyond a change of retorts, it involves no alterations in the construction of furnaces and apparatus at present employed in gas manufactories conducted on the old system.

## Correspondence.

### THE GREAT CENTRAL GAS COMPANY AND ITS CUSTOMERS.

Sir,—As you solicit communications respecting any matter of interest to gas consumers, and as you have already made public the facts of the dispute pending between us and the Great Central Gas Company, we are desirous of informing you that a writ has been served on us for the £237. 6s. 1d., claimed by that company for one year's supply of gas, equal only to that for which we had been charged £105. 3s. 2d. by the Chartered Company; and that we have, by the advice of counsel, paid the latter sum into the court, together with 1s. for damages.

We should be glad, if, through the medium of your paper, you would induce fellow-sufferers to make their cases public, and thus strengthen a just cause by additional evidence.

John Tallis and Co.

*No.* 100, *St. John's-street, March* 6, 1852.

[Are Messrs. Tallis and Co. aware of the clause in the City and Great Central Gas Company Amalgamation Act, now before the Legislature, by which it is proposed to be enacted that "the register of the meter shall be *primâ facie* evidence of the quantity of gas consumed?"]

### ANALYSES OF COALS.

Sir,—I have perused with great interest and satisfaction the analyses of the various descriptions of coals, in the last three Journals, and cannot but think that your labours will render great service in the improvement of illuminating gas, as well as to chemistry in general. My attention was directed to your remarks in the Journal of December 10, on the great difficulty you encountered in procuring well-authenticated and yet fair average samples of coal; and I cannot but think that, with the greatest care bestowed by you, you must, in many instances, have been unable to obtain pure and fair samples: and this must be the case with the two descriptions of coals belonging to me, as I had no contract during the past year for one of the coals, nor shipped any to the market for a considerable period, previous to December, and am at a loss how you were enabled to get a fair sample of this coal. As you may, therefore, wish to have a fair sample of my coals, I shall be happy to forward you a box containing a sample of each, as raised from the mine.

J. D.

*Durham, Feb.* 13, 1852.

[We are quite satisfied with the genuineness of the samples of coals to which the above refers, but thank the writer for his offer to send us fresh ones. We prefer, however, to select them from the bulk as supplied to the gas works, rather than to be furnished with picked specimens.]

## Register of New Patents.

Pierre Armand Lecomte de Fontainemoreau, of South-street, Finsbury, for "*certain improvements in apparatus for gaslighting.*" (A communication.) Patent dated August 28, 1851.

These improvements consist in applying to the chimneys of gas-burners certain apparatus by which the supply of air to the burner is so regulated as to obtain from a given volume of gas the greatest possible illuminating and heating effects.

The apparatus consists of a perforated metal or wire-cloth diaphragm, which is placed at the bottom of the chimney of the burner, and serves to produce a division of the up-current of air into minute streams, and a metal disc with a valve in the centre, which is sustained at a slight distance above the top of the chimney by means of projections, which rest on a ring of porcelain fitted to the top of the chimney-glass. The valve in the disc is operated by a thumb-screw, for the purpose of increasing at pleasure the area of opening.

Claim.—The construction of an apparatus for regulating the supply and action of air on the flame of gas-burners, whereby the illuminating power of the gas under a given volume of flame is increased, and a considerable economy in the consumption of gas is effected.

BENJAMIN HALLEWELL, of Leeds, wine-merchant, for "*improvements in drying malt.*" Patent dated Sept. 4, 1851.

These improvements consist in the employment for drying malt of numerous jets of gas, alone, or in combination with the use of steam.

The gas or steam pipes are placed alternately under the floor of the malt-house, which is constructed of perforated tiles, for the ready transmission of the heat, and the burners of the gas-pipes are placed on each side of the same, so as to play on the outside of the steam-pipes, as well as against the under side of the perforated tiles. The advantage of using gas is, that it admits of the heat applied being regulated with great nicety, and at the same time it prevents the condensation of the steam in passing through the steam-pipes.

Claim.—The employment of numerous jets of gas, alone, or combined with the use of steam, for drying malt.

## Miscellaneous News.

### THE GAS CONTROVERSY IN MARYLEBONE AND THE GAS CONSUMERS' COMPANY.

MEETING OF THE VESTRY, FEBRUARY 28.

At a meeting of the Vestry of St. Marylebone, held at the Court-house on Saturday, the 28th ultimo, ALFRED DANIELL, Esq., in the chair,

Mr. W. E. GREENWELL, the vestry clerk, said he had to lay before the vestry a memorial from certain directors of the Marylebone Gas Consumers' Company; and he had received an intimation that Mr. Holman, the solicitor to that company, was in attendance to support the memorial, and to answer any questions which the vestry might think proper to put to him on the subject.

The CHAIRMAN: Is it the pleasure of the vestry that the memorial be read? (Hear, hear.)

Mr. GREENWELL read the memorial, as follows:—

"TO THE HONOURABLE THE BOARD OF VESTRYMEN OF ST. MARYLEBONE.

"The Memorial of the Directors of the Gas Consumers' Company,

"Showeth,—That, on obtaining the assurance of your honourable board that permission will be granted to the Marylebone Gas Consumers' Company, on certain conditions, to lay down the mains and pipes throughout the whole extent of the parish in the month of March next, the directors lost no time in adopting measures to complete their arrangements for carrying out the objects of the company; but, in consequence of the *false* and *malicious* statements that have been industriously circulated, their progress has not been so rapid as would otherwise have been the case.

"They have, however, succeeded in obtaining the services of T. A. Hedley, Esq., C.E., a very eminent, scientific, and practical gas engineer, on the faith of the highest and most convincing testimonials and evidence of his ability and character; and, with the view to provide as effectually as possible for the completeness of the works and the cheapness and quality of the gas, they have also obtained the invaluable assistance and co-operation of S. Clegg, Esq., C.E., confessedly the most eminent gas engineer in the kingdom. They are, moreover, in communication with several gentlemen of the highest respectability, and confidently hope that they will, in the course of a few days, join the direction.

"That the directors have, by express agreement among themselves, limited their shares in the capital of the company to the amount of their respective qualification as such directors, they being desirous that it should appear, as the fact is, that this company is not a speculation for their advantage, but a *bonâ fide* undertaking to extend to the parish of St. Marylebone the benefits of good and cheap gas.

"That your memorialists tender to your honourable board the most unqualified assurance of the unalterable determination of the directors to carry out the objects of the company in a *bonâ fide* and strictly honourable manner, and beg utterly to repudiate all imputations whatever to the contrary.

"That, as evidence of the practicability of supplying good gas at a maximum of 4s. per 1000 cubic feet, your memorialists crave leave to call the attention of your honourable board to a letter addressed by Mr. Clegg to Mr. Hedley, which is in the words following:—

"'London, Feb. 12, 1852.

"'My dear Sir,—I am glad to receive the appointment of consulting engineer to the Marylebone Gas Consumers' Company, because I have long ago stated that gas could be sold for 4s. per 1000, leaving a profit of 10 per cent.; and that now, by our joint efforts, we shall be able to prove to the gas world that this can be done with ease and of a very superior quality, provided we are not thwarted in our operations.

'I remain, dear sir, yours very truly, SAMUEL CLEGG.'

"That the directors have received promises from a very considerable number of the ratepayers and gas consumers of your parish, to support and take shares in the undertaking, and beg to refer your honourable board to a resolution of the Gas Consumers' Protection Committee, passed on Friday, the 24th inst., and which has been made public throughout the parish.

"That your memorialists are desirous of calling the especial attention of your honourable board to an assertion which has gained influence over some of the ratepayers and gas consumers of your parish, that, as the existing companies have reduced the price of the gas to 4s. 6d. and 4s. per 1000 cubic feet, the parish will not be benefited by the introduction of the new company.

"That, as the claims of this company to the support of the inhabitants of this parish are founded on giving cheaper and better gas than has hitherto been supplied, so, with reference to this objection, your memorialists crave leave to observe that, so far from the reduction in price by the existing companies being an available objection, it affords the strongest grounds upon which the 'Marylebone Gas Consumers' Company' claim title to the support of the parish.

"That, in proof of this, your memorialists beg leave to observe that, if the existing companies, encumbered as they are with a heavy capital expended in works, and upon which dividends are, of course, to be paid, can supply gas at 4s. per 1000 feet with a profit, it is self-evident that the 'Marylebone Gas Consumers' Company,' having only a very limited but amply sufficient capital, will be able to supply that article at less price; and consequently, that although the price of the gas is fixed at a maximum of 4s. per 1000 feet, the new company will be in a position to supply it at less than that price; while, on the other hand, if the existing companies sustain a loss by supplying the gas at 4s., it is no less evident that they must and will eventually seek to make good that loss by raising the price whenever convenient and enabled from circumstances so to do.

"That your memorialists are informed and believe that, as a consequence in the reduction lately made by the existing companies in the price of their gas, the illuminating power of such gas has been considerably reduced, the effect of which is to render entirely delusory the boasted reduction.

"That your memorialists, on the authority of their engineers, beg leave to state that the 'Marylebone Gas Consumers' Company' will be enabled to tender for lighting the public lamps in the parish with gas of a higher illuminating power than has hitherto been supplied, at a price not exceeding £3 per lamp for the four-hole burner, and not exceeding £3. 10s. per lamp for the five-feet burner.

"That your memorialists have contracted with a firm of the highest respectability, and the most ample means for carrying out the whole of the undertaking, and upon the complete registration of the company they will be beforehand to commence the works.

Your memorialists, therefore, humbly pray the continuance and support of your honourable board, collectively and individually, in aid of their endeavours to carry out the objects which the directors of the Marylebone Gas Consumers' Company have, in common with your honourable board and the ratepayers and gas consumers, namely, the supply of good and cheap gas to the inhabitants of the parish of St. Marylebone.

(Signed) "BENJAMIN SHAW.
"JOHN CROSS.
"H. T. PRINSEP.
"W. EALES."
(Directors of the above-named Company.)

The CHAIRMAN: Mr. Holman, the solicitor to the Marylebone Gas Consumers' Company, is in attendance, and wishes to be heard.

Mr. SODEN: I presume, sir, that Mr. Pearse and Mr. Chapman are not also in waiting to support the prayer of this memorial? (Laughter.)

Mr. Holman, the solicitor to the company, was called in.

The CHAIRMAN: The memorial which you have sent to the vestry clerk, on behalf of the company you represent, has been read to the vestry; do you wish to say anything to the vestry in support of, or in addition to, that memorial?

Mr. HOLMAN: I have nothing to say in support of the memorial; but, if any gentleman of the vestry wishes to ask me any questions, I have attended here for the purpose of answering them.

Mr. CLEMENT GEORGE: Is your object in presenting this memorial to obtain an extension of time from the vestry for raising your works and laying your mains?

Mr. HOLMAN: I don't think that we shall require it.

Mr. GEORGE: Then what is your object?

Mr. HOLMAN: Mainly to do away with the effect of the false and malicious statements which have been circulated against the company.

Mr. CLARKE: Seeing that you have no works, how can you be in a position to give this parish your gas in another month? (Oh.)

The CHAIRMAN decided that the question was irrelevant.

Mr. CLEMENT GEORGE: Are the operations of the Marylebone Gas Consumers' Company progressing?

Mr. HOLMAN: Oh yes. We have in view several sites of land for our works. One we have secured, and no one can take it from us; but we are still looking out for a site more eligible. We have made contracts with parties which, I think, will enable us to commence our works, and to open the streets of this parish, with the permission of the vestry, to lay our mains and pipes before the month of March is out, in accordance with our statement. Our object is to make this a *bonâ fide* consumers' gas company in Marylebone, and upon that ground we claim the support of the vestry and the consumers at large.

Mr. SODEN: Then your main object in appearing here to-day, Mr. Holman, appears to be to explain away some reports which have been circulated out of doors detrimental to your company?

The CHAIRMAN (interposing): No—no; that question cannot be put. We have nothing to do in this vestry with out-of-door reports.

Mr. HOLMAN: With regard to reports, I think we can afford to treat them with contempt.

Mr. HODGES: My question, Mr. Chairman, will not refer to out-door reports, but to what is contained in the memorial which has been read. In your memorial, Mr. Holman, you refer to "false and malicious statements" that have been industriously circulated against the Marylebone Gas Consumers' Company. Do you believe those statements have affected your company in its operations?

Mr. HOLMAN: Not a doubt of it. It has impeded our operations materially. We should have been in a much better position than we are, but for those prejudicial and untrue statements.

Mr. GEORGE: It has prevented consumers signing contracts to take the gas, and other persons becoming shareholders?

Mr. HOLMAN: Yes.

Mr. GEORGE: And you come here to present this memorial in repudiation of those statements, and to maintain before the vestry the *bonâ fides* of your company?

Mr. HOLMAN: That is precisely the case.

There being no further questions, Mr. Holman was requested to retire.

Mr. CLARKE: Now, sir, I should like to know the real object of this memorial?

The CHAIRMAN: Are you about to submit a motion?

Mr. CLARKE: No.

The CHAIRMAN: Then I cannot hear you. I must have some resolution before me.

Mr. NICHOLAY: Is there not a gas committee in existence? If so, it had better be referred to that committee.

Mr. HODGES: I beg to move, sir, that the memorial be read and entered on the minutes.

Mr. ROW seconded the resolution.

Mr. GIBSON, the magistrate, objected to loading the minutes of the vestry with such documents as this memorial, more especially as it appeared to cast reflections upon other parties.

Sir PETER LAURIE agreed with the worthy magistrate. He certainly thought that a document imputing malicious and false statements to other parties ought not to go on the minutes of the vestry. (Hear,)

Mr. Soden, with all due deference to the two honourable magistrates, thought it a very important matter, and that it ought to go on the minutes.

Mr. Gibson would move that the memorial lie on the table, or under the table, he cared not which. (Laughter.)

Mr. Clarke: I second that. (Cries of "Which?" and laughter.)

Mr. Clement George thought it would be a very discourteous proceeding to adopt, supposing the amendment of the honourable gentleman opposite were carried, towards the Gas Consumers' Company, who were, he believed, seeking in a *bonâ fide* manner to benefit the gas consumers of Marylebone. Attempts had been made to represent this company as wholly unworthy of support, and this memorial rebutted those accusations. He certainly thought it ought to be treated with proper respect, and referred to the gas committee. (Hear.)

Mr. Row said it had always been the feeling, on the part of some members of that vestry that, when an attempt was made on the part of a gas company to benefit the ratepayers of that parish, that the parties applying were not sincere. He believed that these obstructors were interested in the Imperial Company, and were, therefore, enemies to the ratepayers obtaining cheap gas. (Hear, and "Oh!")

Mr. Gibson repudiated any idea on his part to prevent or obstruct the cheap-gas movement. His only object was to prevent encumbering their minutes with so long a document. He would withdraw his amendment. (Hear.)

Mr. Whitmore said that the reason he objected to this memorial going on the minutes of the vestry was, that, if they did so, it would be publishing that false and malicious statements had been made by the opponents of the Marylebone Gas Consumers' Company against that body. Now, if the vestry placed a document with such charges on their minutes, they must in justice, if demanded, offer a hearing to those impugned, or who took the other side of the question. (Hear.) The memorial involved a serious charge against certain individuals.

A Voice: They are not named.

Mr. Whitmore: But the inference was obvious. It was well known to whom the remarks applied, and the vestry, if they placed this document on their minutes, must hear the other side and become involved in the controversy.

Mr. Nicholay thought the argument of Mr. Whitmore went for nothing. He wished to know whether the vestry of Marylebone were not always willing to hear both sides, and why should they not do so in the case of rival gas companies as well as in other matters? He thought, however, the substance of the memorial would be quite sufficient to be placed on the minutes. (No, no.)

Mr. Lewis should object to the memorial being entered on the minutes unless it was entered *in extenso*. Either enter the whole of it, or not at all.

Mr. Hodges said he was astonished at the squeamishness of some gentlemen in objecting to the words "false and malicious" statements going in the minutes. It was patent to all that there had been "false and malicious" statements industriously circulated throughout the parish, to prevent and to obstruct the operations of this Marylebone Gas Consumers' Company, and, therefore, why seek to shut out the truth?

Mr. Soden wished to know of the vestry clerk, if there were any tangible objections why this memorial should not be entered on the minutes?

Mr. Greenwell (the vestry clerk) said, on the contrary, he thought there were certain reasons why this memorial should be entered at full length upon the minutes. (Hear, hear.)

The resolution was then put and carried unanimously, and the vestry proceeded to other business.

## THE GAS QUESTION AT LEIGHTON BUZZARD.

From the following correspondence, which has recently taken place between Mr. Orlando Brothers and the proprietors of the Leighton works, there does not appear the slightest probability of an amicable settlement of the gas question. A correspondent says, the "reason why many private consumers discontinued the use of gas in 1851 and the previous year was on account of its high price as compared with neighbouring towns. The tradesmen of Leighton Buzzard, as in other agricultural towns, were better off in 1848 than in 1851. When business was flourishing the high price of gas was not felt; but now the pressure of the times brings with it the necessity of economy in every kind of expenditure; and why should there be an exception in the case of gas, when coal may be purchased upwards of 30 per cent. less than in 1848? In addition to Leighton, Mr. Brothers now supplies Chelsea and the railway station from the same works, which was not the case in 1848. The shareholders refuse to reduce the rent to the contractor, and the latter as positively refuses to lessen the price of gas unless the former will go halves in the experiment; so that between the two our ancient market town is placed in an uncomfortable fix. The contractor also declares his intention, should the consumption be much less in the ensuing summer, to shut up the works for six months. Unhappy Leighton, renowned for wealthy 'friends,' independent tradesmen, and fat stock, thy existence is in jeopardy; for the indignant Brothers threatens with one twist of his thumb to put an extinguisher upon thee!" Notwithstanding, however, the gloomy forebodings of our correspondent, which it is sincerely trusted will never be realised, it is the opinion of the leading inhabitants that, if the price of gas was lowered to the amount mentioned in one of the letters, the contractor would find it very greatly to his advantage; and a hope is, therefore, entertained that he will be induced to reconsider the matter, and endeavour to meet the wishes of the inhabitants fairly and honourably, as there is not the slightest doubt of any reasonable proposition on his part, independently of the proprietors, meeting with ample support from the town generally:—

"*Gas Works, Blackburn, Dec.* 20, 1851.

"To the Directors of the Leighton Gas-light and Coke Company.

"Gentlemen,—By this post I have ordered Messrs. Bassett, Grant, and Co. to pay you the sum of seventy-eight pounds twelve shillings and ninepence (£78. 12s. 9d.), making, with the income tax paid by me, the sum of £81, being the rent due to you for the Leighton Gas Works, at six per cent. upon the capital. You are aware of the opposition of the gas consumers of Leighton, who require gas supplied to them as cheap as from works lately erected, and which, on account of iron and other materials, can be erected at least 30 per cent. cheaper now than when you first erected the Leighton Works; and yet I am compelled to pay you six per cent. upon such a capital. No one could have foreseen the great reduction in the price of gas, not only in London, but in all parts of England. When the gas at Leighton was 11. 8d. per 1000 cubic feet in 1847, 60,000 cubic feet of gas was consumed more than in 1850, when the gas was from ten to eight shillings per 1000 cubic feet. Therefore you will perceive I have no encouragement to lower it again. How, in the face of these facts, I can lower the price and pay your rent, is a question that puzzles me very much, except you feel inclined to help me to do so.

"If you will be content with five per cent. upon your capital, I will at once reduce the gas to 8s. and 7s. per 1000 cubic feet. Or, if you think proper, I am willing to relinquish my interest in the lease of the Leighton Gas Works for the remaining seven years, if you will pay me a reasonable valuation for the new meters and pipes furnished by me in Leighton and Chelsea since the works have been in my possession; you having an engineer on your behalf, and myself having one on my behalf. You must remember, should an opposition works be started at Leighton, you will be greater losers than myself; and I can assure you from personal experience, that it is quite possible to erect one for a great deal less money than your works cost you; and when such new works would pay five per cent., yours would not pay perhaps two and-a-half per cent. Besides, I am already supplying gas to the public lamps at a less price than any other works in your neighbourhood, as data I have furnished J. D. Bassett, Esq., will prove.

"It is stated that coals are cheaper;—so they are—and so also coke and tar. In 1844 I paid 22s. 6d. per ton for coals, and sold coke for 4s. per quarter. In 1851 I paid 14s. per ton for coals, and sold coke at only 3s. per quarter; and coal tar is a drug upon my hands. Gas in 1844 was 13s. per 1000 cubic feet. In 1851, gas is from 10s. to 8s. per 1000 cubic feet.

"I produce about 8500 feet per ton of coals; so you perceive I only save 1s. per 1000 cubic feet in coals, but lose 1s. per quarter on the coke produced, and no sale for tar. Yet gas has been reduced 3s. and 5s. per 1000 feet, and I have one per cent. more rent to pay you, considerably more gas at a greatly reduced price to supply to the lamps, at the same time a reduced private consumption. The consequence is, that it is as much as I have been enabled, this year, to pay all expenses and your rent of £162 per annum.

"You are not compelled to lower your rent; but, after all, it is a question with me, whether, if the consumption be reduced by some parties not burning gas, it will not pay me better to keep the price as it is, than reduce it to 8s. and 7s., as I expect no more consumption, as Leighton is not, like Dunstable, an improving town. This plan might very likely lead to the formation of a new company, which ultimately, as I have before stated, cannot be to your benefit, and will injure you more than myself.

"As I believe, for eight years, this is the first time I have addressed you, and you have not during that time had occasion to write for your rent, I trust you will give me a favourable answer to my two propositions. The reason I have not given a decided answer to the Committee of Gas Consumers is, *that, previous to writing to me*, some parties of that committee waited upon some of my consumers, and tried to persuade them to discontinue the use of gas. Such gentlemen might first have waited for my answer.

"I am, gentlemen, your obedient servant,

"Orlando Brothers, Gas Engineer."

"*Leighton, Jan.* 14, 1852.

"Sir,—Your letter of the 20th ult., addressed to the directors of the Leighton Gas Company, has been laid before the proprietors at their annual general meeting on the 12th inst., and I am directed to inform you in reply thereto, that they consider your conditional proposition to be entirely at variance with all business arrangements; you having entered into an agreement and covenanted to rent the Leighton Gas Works for a term of 15 years, and to pay a rent of five per cent. per annum (upon the gross outlay of the works) for the first five years, £6 per cent. per annum for the second five years, £7 per cent. per annum for the third five years, and it is not reasonable or business-like to ask the proprietors to break that agreement and covenant. You will please to bear in mind, whether the works are kept open or closed, you are bound to make good your contract in respect of them; and therefore it is for you to consider whether your interest will not be best promoted by supplying gas to private consumers at something approaching to a general price that is paid in towns of a similar size to this, and charging a usual price for the rent of the meters, which they are told would nearly make up the difference between the rent at six per cent. or five per cent.

"I remain, your obedient servant,

"To Mr. Brothers." "George Franklin, Secretary.

"*Blackburn Gas Works, Jan.* 16, 1852.

"My dear Sir,—I received your communication of the 14th instant this morning, which no doubt the short-sighted cupidity of both directors and shareholders of the Leighton Gas-light Company consider an answer to my letter of the 20th of last December. As it is my intention to print the communications between myself and the Gas Company, and distribute the same amongst the consumers of gas at Leighton, they will now be enabled to judge who is the real author of high-priced gas. They will perceive, also, that the company has not deigned to answer one argument contained in my letter. As to the paltry charge for meters making the difference to me between paying five or six per cent. upon what they term the 'gross outlay of the works,' the Gas Compauy would have consulted the feelings and interests of their fellow-townsmen, had they liberally considered the great reduction in gas required of me, and the data for which I have openly explained to them. It is allowed that even the extra charge for meters would amount to one per cent.—all the deduction I asked; and, had it been conceded, I would willingly have lowered the price of gas to all consumers to 7s. per 1000 cubic feet, though I am aware that I should have to pay a portion of your rent out of my own pocket. I have also been informed that one of the directors has stated that it made no difference to the Gas Company whether I lowered gas or I did not, as, if I did not pay my rent, my securities would be obliged to do so. Cupidity always overshoots its mark; in this case that director has done so. My securities

are Mr. James Malam and Mr. G***** M*****: the former, twelve months ago, died insolvent; the other is not worth 100 pence.

"Again, I am told that, except I lower gas, some £20 or £30 only will be allowed for lighting the public lamps. Now, that there may be no mistake when the proper time arrives, I respectfully state that it is not my intention to reduce gas under existing circumstances; that I will not light the lamps under from £70 to £100, according to the number of hours the lamps are required to be lighted; and also, if the consumption of gas be much less in the summer quarters than hitherto, I shall shut up the works for six months in the year. "Your obedient servant,

"George Franklin, Esq., "ORLANDO BROTHERS."

Secretary to the Leighton Gas-light Company.—(*Bedford Times.*)

## CORPORATION GAS ACCOUNTS.

### REPORT OF THE MANCHESTER GAS COMMITTEE, SHOWING THEIR ASSETS AND ENGAGEMENTS.—JUNE 24, 1851.

#### PERMANENT ASSETS.

*No. 1, or Water-street Station.*

OLD WORKS.

| | £ s. d. | £ s. d. | £ s. d. |
|---|---|---|---|
| Expenditure previous to the Act of 1824:— | | | |
| Land | 3,800 0 0 | | |
| Buildings and apparatus | 21,000 0 0 | | |
| | | 24,800 0 0 | |
| NEW WORKS. | | | |
| Land | 1,500 0 4 | | |
| Buildings | 86 0 0 | | |
| Apparatus | 9,545 14 0 | | |
| | | 11,131 14 4 | |
| Total at No. 1 Station | | | 35,931 14 4 |

*No. 2 or St. George's-road Station.*

(This station was established in 1824.)

| | | | |
|---|---|---|---|
| Expenditure for objects completed, as per last report:— | | | |
| Land | 2,368 14 8 | | |
| Buildings | 13,066 3 10 | | |
| Apparatus | 37,578 12 5½ | | |
| Paving Gould-street, Dewhurst-street, and yard | 964 9 10 | | |
| Levelling ground, superintendent's salary, and petty expenses during the erection of the works | 991 14 4 | | |
| Lands, &c., received in exchange for scavengers' yard, St. George's-road | 1,395 5 6 | | |
| | | 55,375 0 7½ | |
| Advances on account of works not yet completed | | 1,676 17 9 | |
| Total at No. 3 Station | | | 57,051 18 4½ |

*No. 4, or Holt-town Station.*

(This station was established in 1832.)

| | | | |
|---|---|---|---|
| Land | 1,789 16 6 | | |
| Buildings | 1,472 13 7 | | |
| Apparatus | 10,992 13 7 | | |
| Paving Every-street | 114 1 6 | | |
| Total at No. 4 Station | | | 14,369 5 2 |

*No. 5, or Hulme Station.*

(This station was purchased in 1837.)

| | | | |
|---|---|---|---|
| Land bought from Mr. James Fernley | 6,282 0 0 | | |
| Buildings and apparatus | 6,120 0 0 | | |
| | | 12,402 0 0 | |
| WORKS COMPLETED SINCE PURCHASED FROM MR. FERNLEY. | | | |
| Land | 18,789 16 2 | | |
| Buildings | 25,248 0 5 | | |
| Apparatus | 26,845 12 4 | | |
| Paving Finch-street and yard | 314 3 10 | | |
| | | 71,197 12 9 | |
| Works completed since last report | | 591 11 3 | |
| Advances on account of works not yet completed | | 12,956 3 4 | |
| | | 97,147 7 4 | |
| Deduct surplus proceeds from sale of No. 3 Station | | 2,014 11 9 | |
| Total at No. 5 Station | | | 95,132 15 7 |

*Street Mains.*

OLD WORKS.

| | | | |
|---|---|---|---|
| Expenditure previous to the Gas Act of 1824:— | | | |
| Mains | 7,800 0 0 | | |
| Service pipes | 1,400 0 0 | | |
| | | 9,200 0 0 | |
| Streets laid subsequent to the Gas Act of 1824—119 miles 1196 yards | | 83,396 3 7½ | |
| Expenditure since last report:— | | | |
| Mains, 9 miles 537 yards | 6,170 19 8 | | |
| Service pipes | 614 14 0 | | |
| Labourers' wages | 1,201 4 1 | | |
| | 7,986 17 9 | | |
| Deduct amount of main pipes taken up in sundry streets | 1,974 0 7 | | |
| | | 6,012 17 2 | |
| Total in the streets | | | 98,609 0 9½ |
| Permanent assets | | | 301,994 11 3 |

#### FLOATING ASSETS.

| | | | |
|---|---|---|---|
| Materials on hand | | 10,157 17 6 | |
| Gas rents outstanding | | 14,360 12 4 | |
| Advances on account of new works | | 54 8 0 | |
| Sundry accounts owing | | 1,330 15 9 | |
| Sureties of W. H. Coleman | | 128 9 1 | |
| Balance in the bankers' hands | | 1,671 3 1 | |
| Balance in the treasurer's hands | | 561 7 3 | |
| | | 28,264 13 0 | |
| | | 330,259 7 3 | |

#### ENGAGEMENTS.

MORTGAGE DEBT.

| | | | |
|---|---|---|---|
| Amount borrowed under act of 1830 | 8,500 0 0 | | |
| Amount borrowed under act of 1831 | 1,700 0 0 | | |
| Amount borrowed under act of 1837 | 87,400 0 0 | | |
| | | 97,600 0 0 | |

SIMPLE CONTRACT DEBTS.

| | | | |
|---|---|---|---|
| To sundry persons for cannel | 3,076 19 6 | | |
| Do. for iron and ironwork | 551 13 6 | | |
| Do. for metres and boxes | 167 8 0 | | |
| Do. for painting and plumbing | 129 17 7 | | |
| Do. for poundage | 119 8 1 | | |
| Do. for lime, bricks, and sand | 115 19 9 | | |
| Do. for tubing | 104 3 0 | | |
| Do. for paving and carting | 80 17 3 | | |
| Do. for fire bricks | 45 0 4 | | |
| Do. for joiners' work | 41 8 0 | | |
| Do. for sundry articles | 163 7 0 | | |
| Balance owing to bankers on extension of works account | 1,474 6 7 | | |
| Cheque not paid by bankers | 19 8 4 | | |
| | | 6,090 16 11 | |
| Total engagements | | | 103,690 16 11 |
| Excess of assets | | | 226,568 10 4 |
| | | | 330,259 7 3 |

### RECEIPTS AND DISBURSEMENTS OF THE GAS COMMITTEE, FOR THE YEAR ENDING JUNE 24, 1851.

| *Dr.* RECEIPTS. | £ s. d. |
|---|---|
| To cash balance in treasurer's hands, June 24, 1850 | 596 2 3 |
| „ Balance in bankers' hands, June 24, 1850 | 3,234 5 9 |
| „ Cheque not paid by bankers | 19 8 4 |
| „ Balance owing to bankers on extension of works account | 1,474 6 7 |
| „ Interest allowed by bankers on extension of works account | 119 3 11 |
| „ Gas rents, street lamps, &c., received | 93,605 17 10 |
| „ New loans on mortgage | 19,200 0 0 |
| „ Coke, tar, ammonia water, naphtha, &c., sold | 4,754 14 2 |
| „ Meters, boxes, &c., sold | 2,927 12 6 |
| „ Fixing and repairing lamps, laying pipes, &c. | 1,214 10 4 |
| „ Old metal sold | 502 6 10 |
| „ Fines levied | 6 15 0 |
| | 127,666 3 5 |

| *Cr.* EXPENDITURE. | £ s. d. |
|---|---|
| By surplus from rental | 37,591 4 8 |
| „ Cannel | 23,567 11 8 |
| „ Loans repaid | 11,950 0 0 |
| „ Interest on loans, &c. | 6,858 16 3 |
| „ Retortmen's wages | 6,987 9 2 |
| „ Foundry materials | 5,724 4 9 |
| „ Meters and boxes | 3,109 12 7 |
| „ Wages of manager, superintendents, clerks, &c. | 2,881 3 0 |
| „ Pipes and service pipes | 1,734 7 8 |
| „ Retort materials | 1,669 2 5 |
| „ Purifying expenses | 1,347 8 0 |
| „ Income tax | 1,124 13 3 |
| „ Collectors' poundage | 1,115 1 3 |
| „ Taxes, chief rents, and casual expenses | 932 9 2 |
| „ Coke expenses | 312 2 7 |
| „ Wages expended in lamps | 311 1 0 |
| „ Repairing workmens' tools | 188 14 10 |
| „ Naphtha expenses | 175 15 0 |
| „ Stationery and advertising | 130 13 6 |
| „ Ammonia expenses | 95 9 9 |
| „ Wear and tear of stations and streets | 4,232 12 2 |
| „ Extension of works | 14,479 6 7 |
| „ Banking charges | 295 15 10 |
| „ Balance in the bankers' hands | 1,671 3 1 |
| „ Balance in the treasurer's hands | 561 7 3 |
| | 127,666 3 5 |

### MANCHESTER TOWN COUNCIL.

At a meeting of the Manchester Town Council, held Jan. 14, 1851. Mr. Alderman SHUTTLEWORTH moved—

"That the several purchases of land and buildings, as also the arrangements for the extension of the No. 5 gas station, now reported by the gas committee, be, and the same are hereby, approved of and adopted by this council, and that the said committee be, and they are hereby, authorised and empowered fully to complete the same. That the gas committee be, and they are hereby, authorised, under the powers given to this council in and by the Manchester Improvement Act, 1845, and the Manchester General Improvement Act, 1851, or either of them, to borrow, as part of the second charge upon the gas works, any sum of money, not exceeding £30,000, which may be required, and to apply the sum so borrowed in carrying out the extensions of the works now authorised, or otherwise, for the purpose of the gas committee, as authorised in and by the Manchester General Improvement Act, 1851. And that the said committee shall have, and this council hereby delegate to the said committee, all and every the powers, authorities, and discretion which, in and by the said acts, or either of them, in relation to the matters and purposes aforesaid, are now given to and vested in this council."

The extension of the works was a matter of necessity; the demand for gas being now so great and increasing, that. without the arrangement now contemplated of great extension at the No. 5 station, that demand could not be met.

Mr. Alderman BRADFORD seconded the motion.

Mr. R. G. STRACY was glad to find the works were to be extended. and only regretted it had not been done much earlier. The report contained no account of the actual business done and doing by the committee. This was the only committee that did not inform the council on such points, and he knew more about gas in other places than in Manchester. Ere long the question of the price of gas must come before the council; for the consumers were entitled to consideration in the price of an article now becoming a necessary of life. With coal at our own doors, the price was 5s. per thousand cubic feet; while at Liverpool it was only 4s. 6d.: the amalgamated companies paid a dividend of 10 per cent to their shareholders. They divided £45,000 among their proprietors, after putting aside a residue sum. This success he attributed to their liberal treatment of their customers, in leasing the meters at one shilling a quarter, which would be about 10 per cent on the outlay to the proprietors. Here, the price of a meter, £2 to £2. 10s., prevented many from becoming consumers. In Liverpool, nearly every shop and private residence within four miles of Liverpool used gas; here, in private residences, gas was the exception and not the rule. Extending gas-pipes miles beyond the borough involved a great outlay; but little extra cost would result from increasing customers within the borough. In London, gas was 4s. per thousand cubic feet, though much of the coal used was actually brought over railways from Wigan, 200 miles, while here the price was 5s., with coal at our own doors. These facts, if known to the ratepayers of Manchester, would create a feeling that they were paying too much for their gas. At Gravesend they were now paying 6s.; consequently the town was in a state of excitement, and a new company was being formed to supply them at 4s. He feared there was too much conservative spirit left in the committee, but he hoped they would let the public have the benefit from the gas.

Mr. Alderman PILLING said the committee were now proposing to extend their works, in order to obtain more customers. But the committee had to provide the means of redeeming their works, and of constructing extensions. They surely did their best when they sold all they made, and made all they could But they had not had the power of borrowing more money, and therefore could not make extensions till now.

Mr. MEDCALF complained of the irregularity of Mr. Stracy bringing this subject in this way before the council, without notice. The committee had devoted themselves to the extension of the works, and the production of an excellent article. Price was in no sense a criterion of the value of gas, unless with it were given the degree of illuminating power of the gas from the various places named. The Manchester gas committee had supplied as much gas as they possibly could, in the absence of the pecuniary means for extending the works; and, these having now been obtained, it would be their aim to supply the wants of the community at the lowest price, consistently with a good quality and great illuminating power.

The resolution then passed almost unanimously.

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### RECEIPTS AND EXPENDITURE OF THE BOROUGH OF SALFORD GAS COMMITTEE FOR THE YEAR ENDING JUNE 30, 1851.

#### RECEIPTS.

| | £ s. d. | £ s. d. |
|---|---|---|
| Balance of cash on hand, June 30, 1850 | 65 6 6 | |
| Balance in the banker's hands, June 30, 1850 | 4,705 12 0 | |
| Balance of interest account to June 30, 1851 | 24 11 10 | |
| Gas rents received | 15,885 10 4 | |
| Gas rents outstanding, June 30, 1850 | 1,963 18 2 | |
| | 17,849 8 6 | |
| Less gas rents outstanding, June 30, 1851 | 2,245 2 1 | |
| | | 15,604 6 5 |
| *Coke, Gas Tar, Ammoniacal Liquor, &c., sold.* | | |
| Coke | 540 7 9 | |
| Gas tar | 495 5 0 | |
| Ammoniacal liquor | 191 6 8 | |
| Cinders | 0 1 6 | |
| | | 1,227 0 11 |
| *Meters and Meter Boxes.* | | |
| Meters | 566 7 6 | |
| Meter-boxes | 41 9 5 | |
| | | 607 16 11 |
| *Sundries.* | | |
| Old iron (not retorts) | 36 12 5 | |
| Fines, summonses, &c. | 1 10 0 | |
| | | 38 2 5 |
| Balance of sums owing by the committee, June 30, 1851:— | | |
| Sums owing by the committee, as per balance-sheet | 2,019 3 7 | |
| Sums owing to the committee, as per balance-sheet | 1,349 9 0½ | |
| | | 669 14 6½ |
| | | 22,942 11 6½ |

#### EXPENDITURE.

| | £ s. d. | £ s. d. |
|---|---|---|
| Balance of sums owing to and by the committee, as per report of 1850 | | 107 4 4 |
| *Salaries.* | | |
| Manager — James Stelfox, one year | 250 0 0 | |
| Collector — Samuel Long, ditto | 192 9 2 | |
| Office-clerk — John Storer, ditto | 87 16 0 | |
| Inspector of meters, &c., Wm. M'Farlane, ditto | 62 8 0 | |
| Inspector of meters — John Cocker, ditto | 46 16 0 | |
| Assistant-inspector — John Nixon, ditto | 26 0 0 | |
| Lodge-keeper — Charles Britland, ditto | 52 0 0 | |
| | | 717 9 2 |
| *Workmen's Wages.* | | |
| Gas men | 1,050 19 1 | |
| Bricklayers at retorts | 109 8 7 | |
| Labourers at the works | 328 11 1 | |
| | | 1,488 18 9 |
| *Interest, Chief Rents, &c.* | | |
| Property-tax, one year — £ 169 13 10 | | |
| Less received from Le Gendre N. Starkie — 8 5 8 | | |
| | 161 7 2 | |
| The finance committee, one year's interest on the invested capital | 1,857 6 2 | |
| Chief rents, one year — £ 284 1 8 | | |
| Less received from the Town-hall, &c., committee — 100 8 0 | | |
| | 183 13 8 | |
| The improvement committee, proportion of profits to June 30, 1850 | 2,753 0 0 | |
| | | 4,955 7 0 |
| *Cannel and Lime.* | | |
| Cannel | 3,899 2 10 | |
| Lime for purifying | 124 11 11 | |
| | | 4,023 14 9 |
| *Meters and Meter Boxes.* | | |
| Meters | 469 6 2 | |
| Meter-boxes | 36 17 9 | |
| | | 506 3 11 |
| *Main Pipes, Excavating, &c.* | | |
| Iron main and service pipes | 2,397 0 5 | |
| *Iron Work, Retorts, Smiths' Work, &c.* | | |
| Iron retorts | 116 0 0 | |
| Clay retorts | 256 16 11 | |
| Iron castings for works | 75 18 11 | |
| Implements | 72 0 6 | |
| | | 520 16 4 |
| *Cement, Repairs of Pipes and Streets.* | | |
| Cement | 72 0 10 | |
| Repairs of water works committee's pipes | 5 8 10 | |
| Repairs of streets | 154 4 4 | |
| | | 231 14 0 |
| *New Gas Tank, Gasholder, &c.* | | |
| Excavating new tank, brick and stone work | 1,236 12 0 | |
| New governor and house | 103 1 0 | |
| New gasholder and connections | 1,746 4 0 | |
| | | 3,085 17 0 |
| *Miscellaneous Expenses.* | | |
| Fire bricks and fire clay | 141 0 4 | |
| Steam engine | 1 13 6 | |
| Oil, paint, and painting | 20 16 3 | |
| Repairs of buildings | 23 7 9 | |
| Expenses on manager's house | 10 4 8½ | |
| Burners | 2 10 3 | |
| Casual expenses on the works | 122 8 3 | |
| Accident to gasholder | 190 5 9 | |
| Office expenses | 61 2 3 | |
| | | 573 9 0½ |
| Balance in the banker's hands, June 20, 1851 | | 4,301 13 6 |
| Balance of cash on hand, June 30, 1851 | | 33 3 4 |
| | | 22,942 11 6½ |

Total quantity of cannel used, 6,873 tons.
Total quantity of gas made, 79,996,500 cubic feet.
Gas made per ton of cannel, 11,637 cubic feet.

SALFORD GAS COMMITTEE STOCK ACCOUNT, JUNE 30, 1851.

| ENGAGEMENTS. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Sundry debts owing on simple contract ... ... | 2,019 | 3 | 7 | | | |
| Excess of assets ... ... ... ... ... | 47,610 | 13 | 1½ | | | |
| | | | | 496,929 | 16 | 8½ |

| PERMANENT ASSETS. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Gas Works, as per last report ... ... ... ... | 37,146 | 4 | 5 | | | |
| Deduct allowance for deterioration for the year ... | 928 | 13 | 1 | | | |
| | | | | 36,217 | 11 | 4 |
| Add outlay in the year ending June 30, 1851:— | | | | | | |
| Excavating, brick and stone work for new tank... | 1,236 | 12 | 0 | | | |
| New governor and house ... ... ... ... | 103 | 1 | 0 | | | |
| New gasholder and connections ... ... ... | 1,746 | 4 | 0 | | | |
| Iron main pipes ... ... ... ... ... | 2,397 | 0 | 5 | | | |
| | | | | 5,842 | 17 | 5 |
| FLOATING ASSETS. | | | | | | |
| Gas rents outstanding, June 30, 1851 ... ... ... | 2,345 | 2 | 1 | | | |
| Sundry debts owing to the committee ... ... ... | 517 | 14 | 11½ | | | |
| Sundry materials on hand ... ... ... ... | 831 | 14 | 1 | | | |
| Balance in the bank, June 30, 1851 ... ... ... | 4,301 | 13 | 6 | | | |
| Balance of cash on hand, June 30, 1851 ... ... | 33 | 3 | 4 | | | |
| | | | | 7,929 | 7 | 11½ |
| | | | | 496,929 | 16 | 8½ |

The report which accompanies the above accounts of the Salford Gas Committee contains the following reference to their experience on the use of clay retorts:—

EXTRACT FROM THE REPORT OF THE SALFORD GAS COMMITTEE.

Your committee have used clay instead of iron retorts during the past year, which have so far proved very satisfactory; the amount paid for iron and clay retorts, in the year ending June 30, 1850, was £538. 10s. 7d., when the price of iron was exceedingly low (the price being £4. 15s. per ton). In 1848, the amount paid for iron retorts was £813. 18s. 4½d.; whilst the amount paid for clay and iron retorts, for the year ending June 30, 1851, was only £372. 16s. 11d., being a saving, at the lowest cost of iron ones, of £165. 13s. 8d.; and, in consequence of the greater durability of the clay retorts, a further saving has been effected in bricksetters' wages of £31. 2s. 9d., and in the article of fire-bricks of £52. 6s. 4d., making together the sum of £249. 2s. 9d. for the year in favour of clay retorts, as compared with the iron ones used in 1850, and of £514. 11s. 11½d. as compared with the year 1848, when the price of iron was much higher (£6. 12s. 6d. per ton). This reduced expenditure has been effected in the cost of retorts, wages, and fire-bricks, during the past year, notwithstanding the fact that nearly 10,000,000 of cubic feet of gas have been produced more than in 1850, and nearly 22,000,000 more than in 1848.

RECEIPTS AND EXPENDITURE OF THE TOWN OF GREENOCK GAS COMMITTEE FOR THE YEAR ENDING SEPTEMBER 1, 1851.

| RECEIPTS. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Gas sold by measure .. .. .. .. .. | | | | 7243 | 9 | 6 |
| Gas sold by contract .. .. .. .. .. | | | | 96 | 10 | 2 |
| Harbour and town lamps .. .. .. .. | 1458 | 2 | 9 | | | |
| Less lamplighters' wages and repairs .. .. .. | 220 | 13 | 3½ | | | |
| | | | | 1237 | 9 | 5½ |
| Tar, coke, and ammoniacal liquor .. .. .. | | | | 525 | 0 | 1¼ |
| Bad debts recovered .. .. .. .. .. | | | | 3 | 10 | 2 |
| Hire of meters .. .. .. .. .. .. | | | | 320 | 2 | 5½ |
| | | | | 9127 | 1 | 10½ |

| ORDINARY EXPENDITURE. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Cannel Coal .. .. .. .. .. .. | 1793 | 10 | 3 | | | |
| Interest .. .. .. .. .. .. .. | 1305 | 14 | 3 | | | |
| Wages and salaries .. .. .. .. .. | 915 | 19 | 9 | | | |
| Repairs to retort bench .. .. .. .. .. | 279 | 2 | 4 | | | |
| Duties, taxes, and insurance .. .. .. .. | 266 | 0 | 7½ | | | |
| Lime for purification .. .. .. .. .. | 115 | 3 | 8 | | | |
| Stationery and printing .. .. .. .. .. | 50 | 13 | 8 | | | |
| Cartage of ashes .. .. .. .. .. .. | 3 | 3 | 7 | | | |
| Repairs to houses, apparatus, &c. .. .. .. | 158 | 8 | 10 | | | |
| Repairs to mains and service pipes .. .. .. | 109 | 19 | 5½ | | | |
| Repairs to meters .. .. .. .. .. .. | 113 | 15 | 0 | | | |
| Incidentals .. .. .. .. .. .. .. | 60 | 5 | 7 | | | |
| | | | | 5171 | 16 | 0 |
| EXTRAORDINARY EXPENDITURE. | | | | | | |
| Mains and service pipes, extensions and enlargements | 258 | 7 | 3 | | | |
| Meters .. .. .. .. .. .. .. | 8 | 14 | 2 | | | |
| Deterioration of works and pipes .. .. .. | 2000 | 0 | 0 | | | |
| Contingent fund .. .. .. .. .. .. | 488 | 4 | 5½ | | | |
| | | | | 2755 | 5 | 10½ |
| Net profit .. .. .. .. .. .. .. | | | | 1500 | 0 | 0 |
| | | | | 9127 | 1 | 10½ |

Total quantity of gas manufactured in the year .. .. .. 30,601,700 feet.

## PUBLIC GAS-LAMPS AND LIGHTING OF THE CITY OF LONDON.

(*From the Annual Report of the Surveyor to the Commissioners of Sewers.*)

Upon the 27th of May, I received your instructions to report as to lamp columns and brackets within the city of London. As at that period the contract for lighting the public lamps was for the first time let to the Great Central Gas Consumers' Company, a resurvey of the whole of the lamps appeared expedient. I accordingly made arrangements for the inspectors to go through their districts with an officer of that company, take accurate account of the number of each lamp, and the description of the burner used within it—by which the accounts might be accurately checked; and, at the same opportunity, I directed precise information to be registered, in books prepared for that purpose, showing a variety of information as to the condition of the public lights.

From the returns made, I have drawn up, and beg to append hereunto, tables which will show at a glance the number of the lamps within each ward of the City, and each inspector's district respectively, the description of the lanterns and burners, and whether fixed upon columns or brackets.

I also beg to submit some additional information in relation to the public lighting within the City, that may perchance be considered interesting, if not useful.

It will be seen that the total number of public lamps within the City is 2738.*

From the circumstance of there being instances in which there are two or more burners in one lantern, where the lanterns are fixed in peculiar situations, there are a few more burners than lanterns—the number of burners being 2744, of which 2157⅓ are batswing and 586⅔ cockspur or three-hole burners. Now, according to the accepted calculations, the public lamps are, upon the average, lighted for eleven hours per night throughout the year; and each batswing burner consumes an average of five cubic feet of gas, and each cockspur burner four cubic feet of gas, per hour; and the annual consumption of gas by the public lamps in the city of London is, therefore, as follows:—

| Description of Burner. | Average Consumption per burner per hour in cubic feet. | Number of Burners. | Average Consumption of Gas in Cubic feet. | | |
|---|---|---|---|---|---|
| | | | Per hour. | Per night of 11 hours. | Per Annum of 365 Nights. |
| Batswing .. | 5.0 | 2157⅓ | 10,787⅓ | 118,662⅓ | 43,311,812 |
| Cockspur .. | 4.0 | 586⅔ | 2,346 | 25,806 | 9,419,190 |
| Total.... | | 2744 | 13,133⅓ | 144,468⅓ | 52,731,002 |

* [This is irrespective of the external lights paid for by private individuals, which are estimated at nearly 1000 additional.—ED. J. G. L.]

It will be observed that half-burners are calculated. To explain this, it is necessary to state that there are still four instances in which the commission pay for half the lighting of certain courts. This arrangement was made many years back, and was probably partly owing to the costliness of gas in those days, and questions as to whether the places so lighted were public or private; and also in connection with matters of police. It appears to me, that all places which are public should be lighted solely by the commission; and under the powers of the new act of Parliament (1848) the owners of courts, claimed by them as private, should be compelled to light them at their own expense.

Assumiug the length of public way to be 51 miles, the public lamps will average nearly 54 to each mile, or about one lamp to every 33 yards lineal.

This, although strictly correct in computation, will convey a somewhat erroneous idea as to the public lighting of the City, the apparent distance between the lamps being considerable. In reality, however, this is not the case; for, owing to the close intersection of streets and courts, lamps, when placed judiciously, not unfrequently light two lines of thoroughfare, and sometimes three lines of thoroughfare. The actual lighting of the City may be best estimated by reference to the superficial area lighted by the public lamps. The area of public way (foot-way and carriage-way) being 770,157 square yards, the average area lighted by each lamp is about 281 square yards, or a space of about 16¾ yards square measured in each direction.

The area ot the whole of the city of London being about 621 acres, or 3,005,640 square yards (excluding the Temple), there is one public lamp in every 1097 square yards of its entire area, or a space about 33 yards square measured in each direction.

Assuming the number of houses and premises within the City at 16,300, there is then one lamp to every six houses within the City.

I also beg to submit, in pursuance of your instructions, an estimate of the cost which has been incurred in fixing the public lamps. It must be taken but approximate only, as the cost of each description of work has varied considerably within the last 20 years.

Approximate estimate of cost incurred in providing and setting up, and fixing, the existing public lamps within the city of London:—

| | |
|---|---|
| Lamps fixed on columns..... | £3,681 |
| ,, ,, brackets..... | 7,916 |
| Total..... | £11,597 |

Abstract, showing the totals of the number, description, and mode of fixing the public lamps within the city of London, as existing at Christmas, 1851:—

| District. | Description of Lantern. | | | How fixed. | | | Description of Burner. | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tin. | Glass. | Total. | On Column. | On Brackets. | Total. | Batswing. | Cockspur. | Total. | |
| North. | 282 | 494 | 776 | 213 | 563 | 776 | 559 | 221 | 780 | |
| South. | 82 | 260 | 342 | 52 | 290 | 342 | 299 | 43 | 342 | |
| East.. | 176 | 598 | 774 | 205 | 569 | 774 | 688½ | 85½ | 774 | |
| West . | 260 | 586 | 846 | 289 | 557 | 846 | 611 | 237 | 848 | |
| Total . | 800 | 1938 | 2738 | 759 | 1979 | 2738 | 2157½ | 586½ | 2744 | |

February 10, 1852. WILLIAM HAYWOOD, Surveyor.

## WHITE'S HYDRO-CARBON GAS.

SOUTHPORT IMPROVEMENT COMMISSIONERS.

The usual fortnightly meeting of the commissioners was held in their rooms (Springfield-house) on Tuesday, the 2nd instant. The following report of the gas department from Aug. 12, 1851, to Feb. 12, 1852, was then read:—

The committee have great pleasure to announce the great increase of gas consumed over the corresponding period of last year, but are unable to report any profit upon the half year.

The following are the receipts and payments from July 14, 1851, to Feb. 12, 1852:—

| RECEIPTS. | £ s. d. | £ s. d. |
|---|---|---|
| Received for gas* .. .. .. .. | | 272 3 10 |
| Rent of meters .. .. .. .. | | 10 1 0 |
| ,, service-pipes .. .. .. | | 3 16 2½ |
| Rosin casks .. .. .. .. | | 8 8 11 |
| Pitch and tar .. .. .. .. | | 11 5 4 |
| Rosin oil sold .. .. .. .. | 152 15 2 | |
| Varnish still owing for .. .. .. | 2 9 10 | |
| | 155 5 0 | |
| Less owing for and on hand in July, 1851 .. | 69 0 4 | |
| | | 86 4 8 |
| Received for naphtha and varnish .. .. .. | | 0 17 11 |
| ,, old retorts .. .. .. .. | | 2 0 6 |
| ,, gas-burners .. .. .. .. | | 0 18 6 |
| Gas owing for as per meters, less owing in July .. | | 263 1 11 |
| Tiles, retorts, and mouthpieces on hand .. .. | | 40 0 0 |
| Rosin on hand .. .. .. .. .. | | 39 13 3 |
| Balance (loss) .. .. .. .. .. | | 19 2 11½ |
| | | £757 15 0 |

| DISBURSEMENTS. | £ s. d. |
|---|---|
| Paid for coals (fuel) .. .. .. .. .. | 55 0 7 |
| Day labour .. .. .. .. .. .. | 62 15 1 |
| Rosin .. .. .. .. .. .. | 311 17 6 |
| Fire-clay and tiles .. .. .. .. .. | 11 19 3 |
| Charcoal .. .. .. .. .. .. | 1 2 6 |
| Lime .. .. .. .. .. .. | 4 0 1 |
| Taxes .. .. .. .. .. .. | 1 6 8 |
| Interest .. .. .. .. .. .. | 97 15 3 |
| Printing and stationery .. .. .. .. | 1 3 8 |
| Retorts and iron work .. .. .. .. | 10 17 11 |
| Red and white lead, whiting, &c. .. .. .. | 9 12 8 |
| Carriage of sundries .. .. .. .. .. | 33 10 5 |
| Sundries .. .. .. .. .. .. | 5 13 1 |
| Superintendent's salary .. .. .. .. | 12 10 0 |
| Owing for retorts, &c. .. .. .. .. | 113 10 4 |
| Owing to railway company for carriage of sundry articles | 25 0 0 |
| | £757 15 0 |

COST IN MAKING GAS FOR SIX MONTHS:—

| | £ s. d. |
|---|---|
| Rosin used, 1575 cwt. 0 qr. 1 lb., averaging 3s. 2¼d. per cwt. | 253 15 2 |
| Coals (as fuel) .. .. .. .. .. .. | 46 9 6 |
| Charcoal .. .. .. .. .. .. | 2 3 0 |
| Lime and soda .. .. .. .. .. | 4 0 1 |
| Carriage of rosin .. .. .. .. .. | 28 17 2 |
| Charcoal .. .. .. .. .. .. | 1 12 0 |
| Cost of 1,935,000 feet of gas .. .. .. .. | £336 16 10 |

being 3s. 5¾d. per 1000 feet gross cost, not deducting the products of oil and rosin casks.

NET COST.

| | £ s. d. | £ s. d. | s. d. | |
|---|---|---|---|---|
| Rosin .. .. | 253 15 8 | | | |
| Less oil .. £97 10 0 | | | | |
| Naphtha .. 0 17 11 | | | | |
| Rosin casks 8 8 11—106 16 0 | | | | |
| | 146 19 3 | | | |
| Carriage of rosin .. | 28 17 0 | | | |
| Total for rosin .. .. | | 175 16 3, or 1 | 9½ | per 1000 feet. |
| Coals .. .. .. | | 46 9 6, or 0 | 5¾ | ,, |
| Charcoal .. .. .. | | 3 15 0, or 0 | 0¼ | ,, |
| Lime .. .. .. | | 4 0 1, or 0 | 0½ | ,, |
| | | £230 0 10, or 2 | 4½† | ,, |

The committee had forwarded a copy of this report to the patentees at Manchester, and the following correspondence had taken place in consequence thereof:—

"White's Patent Hydro-carbon Gas-office,
"15A, King-street, Manchester, Feb. 26, 1852.

"The Gas Committee,

"Gentlemen,—It is a matter of regret to us that your report shows a loss of £19 on the half year. All circumstances, however, considered, it is really much more satisfactory than we anticipated; it would be most unfair to argue, that, because there is a loss this half year, it must continue to be a losing matter; on the contrary, I think it may fairly be presumed that there is every likelihood of it paying well. In looking over it, I notice the most prominent features which contribute to the deficit and arrest attention are, the wear and tear and repairs, the high price of resin, and the small quantity of gas and oil produced. Regarding the wear and tear of retorts, Mr. Hodgkinson has told me more than once, that three months is the average at Southport. You are quite aware that high heats are not necessary for hydro-carbon gas; you are also aware that the water gas cannot be the cause, inasmuch as they have generally lasted twice as long as the others. I will now show you that your experience of D retorts with resin gas is singular—singular in the extreme; that in other places they last twice and thrice as long; and that, therefore, the cause must be sought in the treatment of the retorts as to setting or firing.

"Ruthin was lit Dec. 2, 1850; two D retorts were burnt out June 7, 1851, working day and night. *Six months.* One D retort was fired on the 7th of June, and burnt out Dec. 1. *Six months, day and night.* The next retort lasted only seven weeks, owing to an accident from the choking up of a dip pipe; a new D, to replace this broken one, was put in on the 19th of January, and shows no signs of wear and tear as yet. The last two D retorts are not yet put in use. I have just received these particulars from Mr. Ellis. I beg that you will have a copy of them sent to Mr. Ellis, and ask him if they are correct; I may add that they have only had two L retorts sent them since the works were completed some 15 months ago.

"Benrhidding: only one D retort (and *no* L retort) has been sent to this place since it was completed in last May.

"The Granby Hotel, Harrogate, has not had a retort for 18 months.

"Messrs. Clarke's: two D retorts lasted nearly six months; two others lasted respectively 10 and 11½ months.

"We can have no object in endeavouring to misrepresent these matters: the above are the facts, and we must leave you to draw your conclusions. I am perfectly satisfied that the rosin gas retorts ought to last—will last—and *do last* longer than those used in coal-gas works, when properly and regularly fired and protected.

"I notice the price of rosin delivered in Southport is 3s. 7½d.; this is 5d. or 6d. more than I have noticed in former reports; it is certainly unusually high; even delivered in Manchester, the highest price we ever paid was 3s. 3d. The products of the rosin in oil and gas is very low: 1230 feet of gas and only 2½ gallons of oil to the cwt. is contrary to our experience; with only 1230 feet of gas to the cwt., you should have fully 3½ gallons of oil, but you have neither oil or gas in proper quantities: no doubt, as Mr. Hodgkinson suggests, that the black dust which was so abundant some time ago reduced one, or the other, or both. It is certainly very much below what you ought to have.

"I do not think that your leakage and condensation is too high; it must be borne in mind that your condensing power is deficient, and that your meter is very near the condensers, and the gas, consequently, very much expanded in passing through it. The leakage, &c., in most of the London companies is 15 to 25 per cent.—this you will find to be the case on inquiry—I have it direct from some of the London managers; indeed, I know in some small towns it has reached 30 per cent. I don't know what it is here, but I do know that it ought not to be more than 10 per cent., as they always manage to have their service meters well filled with water in Manchester. I tested one at my own house some time since, and the difference between its registration as they left it, and that which it was when I ran off all the water I could, was nearly 25 per cent.

"I do not know that there is anything else in the report on which I can say anything; very likely I may address your committee in a few days on the matter of trying how gas made from Boghead cannel will suit your consumers. I am strongly inclined to think that it would be perfectly satisfactory to them as regards purity, &c., and I am quite certain that it will make cheaper gas than rosin at 3s. 7½d.

"I have the honour to be, gentlemen, very respectfully, yours,
"W. G. GINTY."

* (We believe the price of gas is 7s. 6d. per 1000 feet.)
† (Exclusive of labour, repairs, salaries, taxes, interest, incidental expenses, &c.)

The gas registered by the station-meter for the quarter ending Nov. 12, 1851, is .. .. .. .. .. 735,000 feet.
Registered by small meters .. .. .. 644,840 ,,

Being 12·24 per cent. for condensation on the quarter's consumption. .. .. 90,160 ,,

The gas registered by the station-meter at the works of the quantity made from the 12th of November last to the 12th of February ultimo is 1,200,000 feet.
Registered by small meters .. .. .. 981,700 ,,

218,300 ,,
Less used at works .. .. .. .. 18,300 ,,

Being 16·8 per cent. condensation and leakage .. 200,000 ,,

The total quantity of gas produced for six months is 1,935,000 ,,
Payable for .. .. .. .. .. 1,626,540 ,,

308,460 ,,
Less used at works .. .. .. .. 18,300 ,,

290,160 ,,

The condensation and leakage for the last six months is 15 per cent. on the quantity made.

The consumption of gas for the quarter ending
Nov. 12, 1851, is 644,840 feet. Last year, 380,200 feet.
Feb. 12, 1852, is 981,700 ,, Last year, 697,800 ,,

Total for six months, 1,626,540 ,, Last year, 1,078,000 ,,
being an increase of gas consumed during the last six months over the same period of last year of 548,540 ,,

"Commissioners' Office, Southport, Feb. 28, 1852.

"Messrs. S. White and Co., Manchester,

"Gentlemen,—The gas committee have received Mr. Ginty's letter in reply to mine, enclosing a rough draught of the receipts and payments of the gas departments. The committee wish to give the matter a calm deliberation; and, although they are satisfied with the purity of the hydro-carbon gas, yet they must study the interests of the ratepayers as to the cost, outlay, and expense incurred in producing the gas. In Mr. Ginty's letter he states 'that it is much more satisfactory than we anticipated.' You will see, by the reports I forwarded, that the loss up to July last was £70. 15s. 5d., and the loss on the present half year of £19. 2s. 11½d., making a total of £89. 18s. 4½d. In conjunction with this, it must be borne in mind that the next half year is likely to produce considerably less receipts, consequently the loss must be more, owing to the interest for the half year being obliged to be deducted. It must also be borne in mind that nothing has been yet entered for a depreciation fund, although the third year has commenced without such being able to be adopted.

"The committee, having requested me to write to Salford respecting the casting of their retorts, find, from a report forwarded, that the cost of retorts per ton is much less than that charged to us; they, therefore, requested me to write to several iron-founders to ascertain the price, and in reply I received one from Preston, agreeing to cast us vertical retorts at £5. 10s. per ton; from a firm in Liverpool, who cast for the Liverpool Gas Works, at £5 per ton, this, with only 6s. per ton for carriage from that town, would be a saving to us of £3. 14s. per retort. As this item is a large one in our balance-sheet, the committee have had their attention called to it for some time, and conclude that it is impossible to bear against this enormous item. The committee consider that this town will not bear comparison for the lasting of retorts with a private establishment, or an hotel; and with respect to Ruthin, I think there is some mistake in saying they have worked them night and day, as that suggestion was made by me to Mr. Ellis in September last, and which, I believe, he adopted on his return. The committee have no reason to complain of the water-gas retorts; indeed, only one retort has been burnt, and we have been in operation now two years and three months. The price of the castings is the matter on which they object. The price of rosin at the present time is 3s. 2d. and 3s. 3d. per cwt., consequently it could not be delivered at Manchester for that price.

"The black dust is unabated—one large barrowful coming out of two D retorts four times in 24 hours, must tell on the gas or the oil.

"The committee have done all in their power to give the matter a fair trial, and have divided themselves into three parties to see the drawings and workings, but find that nothing more can be done on their part.

"I am, gentlemen, yours respectfully, T. B. HODGKINSON."

"White's Patent Hydro-carbon Gas-office,
51A, King-street, Manchester, March 1, 1852.

"The Gas Committee, Southport Commissioners.

"Gentlemen,—The information concerning the Ruthin retorts I received from the secretary. I am sure it is correct. There cannot be any mistake as to their working their retorts night and day; it may be that they did not work them during the night until they received the suggestion from Southport, but their fires were up, and, instead of their now working at night being an advantage, it was a positive disadvantage in the matter of wear and tear, as when the men were absent during the night there must have been very irregular firing, which has a very destructive influence.

"We are exceedingly glad to hear that you can get your retorts so much cheaper; I beg to assure your committee that we are not gainers by the transaction of passing them over our books, and we shall be glad to give any ironfounder whom you may select, full permission to cast your retorts. Your committee will oblige by instructing him that the construction of the retorts is patented, and that he must not sell them to other than you without our permission.

"I said in my last letter that it was a source of much regret to all here that you had not a profit on your gas transactions; I have now to repeat it; but I beg your committee to remember that many larger towns in England and Wales—some with double your consumption and less lines of mains—are charging 10s., 12s., and even 15s. for their gas. Blackpool is, I believe, charging 12s.; even Ormskirk, close to you, on the borders of the largest coal-field in England, is charging a higher price. I shall make it my business to get a list of towns, prices, and consumption, and forward them to you as soon as possible.

"I ask your committee to consider on what side the balance would have been, if the expense of the late alterations had not been incurred? and also, if you can think it at all probable that they will occur again? In arriving at a fair conclusion, all this must be taken into account.

"I am, gentlemen, very respectfully, W. G. GINTY."

A considerable discussion followed—for which we are unable to find room—in the course of it Mr. Boothroyd and others expressed their satisfaction at the completeness of the report, and their regret that a loss had been sustained. A "feeler" was thrown out as to the inclination of the commissioners for throwing the hydro-carbon system overboard, and adopting the old coal-gas process; but this idea met with but little encouragement, although several large consumers present expressed their dissatisfaction at the amount of their gas bills, being under the impression that the consumption was greater than was necessary. Some wish was expressed that an experiment should be tried with the Boghead cannel, as recommended by Mr. Ginty in his letter. A strong feeling existed upon the retort part of the question, and it was hoped that their present great cost would be reduced. It was even said that, had the retorts been procured from Liverpool, the balance in the accounts would have been on the other side of the question. A proposition was made that one or two members of the committee should visit some of the places where hydro-carbon gas works are in operation, and ascertain such particulars as they required respecting the working of the apparatus; but no motion was made upon the subject. It was also suggested that some information might be obtained from Dunkeld, where the Boghead cannel gas is made on the hydro-carbon principle. Ultimately

Mr. WRIGHT moved, Mr. SALTHOUSE seconded, and it was resolved—

"That the committee should be empowered to make gas with Boghead cannel, and also with Haigh cannel, for the purpose of trying which would be the best gas for the interests of the town."

*Southport Visitor.*

RECEIPTS AND EXPENDITURE OF THE ODIHAM GAS AND COKE COMPANY, FROM JAN. 1 TO DEC. 31, 1851.

| RECEIPTS. | £ | s. | d. |
|---|---|---|---|
| Balance at bankers as by last account | 159 | 19 | 4 |
| Ditto in hands of secretary | 2 | 11 | 8½ |
| Cash received for gas | 260 | 0 | 6 |
| Do. rent of meters | 14 | 1 | 8 |
| Do. coke, breeze, ashes, foul lime, gas tar, &c. | 14 | 10 | 5 |
| Transfer of shares | 0 | 2 | 0 |
| | £451 | 5 | 7½ |

| EXPENDITURE. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Dividends 3½ per cent. on £2000 | 70 | 0 | 0 | | | |
| Unclaimed | 1 | 1 | 0 | | | |
| | | | | 68 | 19 | 0 |
| Culyer's dividend paid to Mr. Astley | | | | 0 | 14 | 0 |
| Wages | | | | 57 | 6 | 0 |
| Coals, including carriage | | | | 81 | 4 | 0 |
| Agent's bill (dry) | | | | 2 | 1 | 10 |
| Incidentals | | | | 8 | 7 | 4 |
| Lime | | | | 3 | 14 | 8 |
| Tradesmen's bills | | | | 36 | 10 | 11 |
| Secretary's salary | | | | 15 | 0 | 0 |
| Balance in hands of Secretary | | | | 2 | 18 | 4½ |
| Do. at bankers—Rest | 50 | 0 | 0 | | | |
| Proposed dividend, 4 per cent. | 80 | 0 | 0 | | | |
| Balance | 44 | 9 | 6 | | | |
| | | | | 174 | 9 | 6 |
| | | | | £451 | 5 | 7½ |

| ASSETS. | £ | s. | d. | £ | s. | d. |
|---|---|---|---|---|---|---|
| Nineteen tons of coal, at 19s. | | | | 18 | 1 | 0 |
| Two and a half chaldrons of coke | | | | 2 | 10 | 0 |
| Uncollected—Meters and gas | 3 | 15 | 0 | | | |
| Coke | 2 | 4 | 0 | | | |
| | | | | 5 | 19 | 0 |
| | | | | £26 | 10 | 0 |

## GREAT CENTRAL GAS CONSUMERS' COMPANY.

### CITY OF LONDON COURT OF SEWERS.

TUESDAY, FEB. 10.

At a meeting of the Commissioners of Sewers, held this day at the Guildhall—Mr. Deputy Peacock in the chair,

Mr. Deputy LOTT having moved that the past tense be always used in recording the minutes of the court,

Mr. H. L. TAYLOR moved as an amendment, that that part of the minutes be expunged which referred to certain proceedings of the court with reference to the proposals of the Great Central Gas Consumers' Company. Several shareholders of the company were connected with the Sewers Commission, and therefore they were acting contrary to an Act of Parliament in voting on questions affecting the company with which they were connected; and, so long as he was a member of the court, he would protest against the placing on its records anything that was a violation of an Act of Parliament. The 53rd section of the act stated:—"That no person, being a commissioner, who is a shareholder in, or a surveyor, solicitor, or agent for any gas company, water company, or paving company, or any work, undertaking, or speculation, the conducting, promotion, or carrying out of which shall be discussed at any meeting of the commissioners, shall be eligible to sit or vote as a commissioner while such subject is under the discussion of the commissioners." He (Mr. Taylor) would therefore propose to omit from the minutes all words conferring power on the commissioners to vote on a subject contrary to the provisions of an Act of Parliament.

Mr. HOLT: The court surely is master of its own proceedings.

Mr. TAYLOR: I say the court has no right to violate an Act of Parliament, and that they do every day.

The CHAIRMAN hoped the hon. member would not introduce the gas question at this period of the proceedings. He would have a full opportunity afforded by-and-by. (Hear, hear.) For his part, he wished the gas were all out.

An HON. MEMBER: It will soon be out. (Laughter.)

The business of the day having been disposed of,

Mr. TAYLOR said, it was then too late to bring forward the subject of which he had given notice, respecting the appointment of a gentleman to test the gas. He would therefore move "that the court do now adjourn."

The CHAIRMAN: You have time enough; you can do it in a few minutes.

Mr. TAYLOR: I cannot do so in less than an hour.

Mr. Deputy HARRISON seconded the motion; and it was then arranged that on the next day of meeting, Mr. Taylor's motion should have precedence of any other business.

The court then adjourned.

TUESDAY, FEB. 17.

At a meeting of the Court of Common Sewers, held at Guildhall this day—Deputy Britten in the chair,

The following report of the committee upon general purposes was read by the secretary:—

"TO THE HONOURABLE THE COMMISSIONERS OF SEWERS OF THE CITY OF LONDON.

"We, whose names are hereunto set, your committee upon general purposes, to whom, at the meeting of your honourable court, on the 27th of January last, it was referred to inquire into the matters set forth in the resolution and order of the Court of Common Council of the 22nd of January last, respecting the duties, emoluments, and qualifications of an inspector of gas-meters, proposed to be appointed under the Great Central Gas Consumers' Company's Act, and to whom, also, at your last court, it was referred to consider the proposals then made by the said company in reference to the same, and to the chemist appointed under the said act, and to confer with them thereon, do certify that, having this day met together, and, in conformity with the order of your court, every commissioner being summoned to attend, and having considered the questions referred to us, and conferred with the chairman and other directors of the company thereupon, we have jointly agreed to the following regulations, which, in our judgment, should be observed in relation thereto, and we recommend the same be transmitted to the Court of Common Council accordingly:—

"1. That he should be acquainted with the mechanical structure of gas meters, and practically acquainted with testing the same, but should not be engaged in the business of a meter-manufacturer or a gas-fitter.

"2. That his appointment be notified by the company to all the consumers of the company, in order to give them at once an opportunity of having their meters tested and stamped.

"3. That all meters in future issued by the company shall be tested and stamped by him.

"4. That the company shall provide a proper office, with the needful apparatus, and the inspector to be appointed shall be paid by the company the yearly salary of £100, with a fee of 6d. on each meter tested and stamped, to be paid by the company in all cases of first examination and stamping. Upon any subsequent examination being made, upon complaint by the consumer, the company to pay the same fee of 6d. if the meter be found to be out of order, and by the consumer if the meter be found correct.

"5. With regard to the duties and emoluments of the chemist to be appointed to test the quality of the gas, we propose that the company provide the means and apparatus necessary for his testing the gas; and, as a gentleman of high professional standing will be appointed, he should make a number of experiments, sufficient to satisfy himself that the standard of illuminating power and purity, according to the standard mentioned in the act, is supplied, with the instruction that such examinations are to be made without the knowledge of the company, and at least once in each month, and that the emolument to be paid to such chemist be £100 a-year.

"6. The inspector of meters shall keep a registry of his operations, to be at all times open to the inspection of the Commissioners of Sewers and their officers.

"7. The chemist to be required to report to the commissioners, in writing, at least once in three months, or oftener if he see fit.

"8. These officers, being appointed by the Court of Common Council, will be liable to dismissal by that court on misconduct.

"We beg also to suggest that the City of London Gas Company and the Chartered Gas Company should be requested also to submit their gas to be tested and their meters to be examined, upon the same terms and regulations as those now agreed to by the Great Central Gas Company. All which we submit to your honourable court.

"Dated this 9th of February, 1852.

(Signed) "W. A. PEACOCK.
"EDWARD HARRISON.
"J. HUMPHREYS.
"JOHN BRITTEN.
"H. HIBBELL."

On the motion of Mr. Deputy HARRISON, the report was unanimously agreed to without observation.

## COURT OF COMMON COUNCIL.

THURSDAY, FEB. 12.

At the Court of Common Council, held at Guildhall this day, the Lord Mayor in the chair, the following letter from Professor Brande, addressed to Mr. Sergeant Merryweather, was read to the court:—

"Royal Mint, Feb. 3, 1852.

"Sir,—I beg to acknowledge the receipt of your letter of yesterday's date, enclosing a resolution of the Court of Common Council, appointing me to test the quality of the gas supplied by the Great Central Gas Consumers' Company.

"I regret to say that I am obliged to decline the acceptance of the appointment, in consequence of my other avocations.

"I have the honour to remain, sir,
"Your faithful servant,
"Mr. Sergeant Merryweather, &c." "W. T. BRANDE."

Mr. DAKIN hoped that, as Mr. Brande had declined to accept the appointment, a notice would be placed on the paper of business that an officer for testing the gas would be appointed at the next meeting of the court, and also for the appointment of an inspector of meters. He would move that an application be made to his lordship to order the election of those officers at the next meeting.

Mr. H. L. TAYLOR: and I move that my motion be put at the head of it. (Oh, oh.)

Mr. Deputy HARRISON: I hope it will be done with at the next court, and that your motion will be put at the bottom of the table, where it deserves to be. (Laughter.)

The LORD MAYOR signified his assent to the motion of Mr. Dakin, and the other business of the court was proceeded with.

FRIDAY, FEB. 27.

APPOINTMENT OF A CHEMIST.

[We had made arrangements for obtaining a full report of this important sitting, but the sudden indisposition of our reporter compels us to adopt the abstract given by the daily papers.]

Mr. Deputy PEACOCK brought up a report recommending the appointment of a chemical referee and meter inspectors, to test the quality of the gas and the regularity of the meters supplied by the Great Central Gas Consumers' Company. The regulations as to the duties and the emoluments of those officers had, in conformity with the terms of the act of Parliament, been agreed to between the commissioners and the chairman of the company, and he felt satisfied they would give general satisfaction. He moved that the court do agree with the commissioners in their report. (Hear.)

Mr. H. L. TAYLOR said he should move as an amendment, "That the report be sent back for reconsideration, with instructions to introduce the same conditions as to the duties of the chemist which had been proposed to Mr. Brande."

Mr. Deputy LOTT seconded the amendment.

Mr. NORRIS said that it was the duty of the court to lose no time in making the selection of officers intrusted to them to elect by the act of Parliament; it was a duty of such vast importance to the citizens that it should be exercised wisely and impartially. (Hear, hear.) The company as well as the gas consumers were entitled to the protection which the appointment of independent officers to stand between buyer and seller would afford to both parties. He was in a condition to speak with impartiality, being entirely unconnected with either company; but he must acknowledge that both himself and the citizens at large were deeply indebted to the new company for the bold and spirited course they had pursued throughout their arduous struggle.

Mr. Deputy HARRISON complained of the conduct pursued by Mr. Taylor in pursuing the same obstructive course which had hitherto marked his opposition to this company.

Mr. ELLIOT deprecated the course pursued by Mr. Deputy HARRISON in telling over again the oft-told tale respecting the formation of the company. That company was a job of the Commissioners of Sewers.

Mr. DAKIN remarked, he had hoped the time would have arrived when Mr. Taylor would have consented to give up the obstructive policy in which it had been so long his pleasure to indulge.

The CHAIRMAN of the COMMISSIONER of SEWERS replied, he took no part in the contests between the rival gas companies; all the commissioners desired was that the inhabitants should have good and cheap gas.

The amendment was then negatived, and the original motion carried, with only three hands in opposition.

Dr. Letheby was then elected chemical referee, and Mr. Taunton was appointed meter inspector.

## ABSTRACT OF THE CITY OF LONDON AND GREAT CENTRAL GAS COMPANY AMALGAMATION BILL.

The preamble, after reciting the acts 57 Geo. 3, c. 23, and 13 and 14 Vic., c. 69, by which the respective companies were incorporated, declares that it is expedient that the two companies should be formed into one company only.

Clause I. After the passing of this act, the several companies by the previous acts incorporated shall be dissolved.

Clause II. In citing this act in other acts of Parliament, or in any legal instrument, it shall be sufficient to use the expression "The City of London Gas Consumers' Act, 1852."

Clause III. Is an interpretation clause.

Clause IV. Declares the purposes of the company to be the lighting with gas of the districts now occupied by the two companies.

Clause V. Incorporates the new company under the title of "The City of London Gas Consumers' Company."

Clause VI. Vests the effects, &c., of dissolved companies in the new company.

Clause VII. From and immediately upon and after the said dissolution of the said dissolved companies, the company shall be subject to all liabilities, obligations, contracts, claims, demands, and penalties to which the dissolved companies were respectively at the time of their said dissolution subject, in like manner as the dissolved companies respectively would have been subject to the same if this act had not been passed.

Clause VIII. All conveyances, bonds, contracts, agreements, covenants, and securities, made or entered into upon or before the time of the said dissolution, to, with, or in favour of, or by, or for the dissolved companies respectively, or any person on either of their behalves, shall be and remain as good, valid, and effectual in favour of or against and with reference to the company, as they were in favour of or against and with reference to the dissolved companies respectively.

Clause IX. In all cases in which either of the dissolved companies shall have, upon or previously to the said dissolution thereof, entered into any contract or agreement for the purchase or sale of any lands or works, powers, rights, or privileges, which upon or before the said dissolution thereof shall not have been effectually conveyed or transferred to or by such company, or the purchase money in respect whereof shall not have been duly paid, then and in every such case such contract or agreement, provided the same shall be valid and subsisting at the time of the said dissolution, shall be completed by or in favour of, and such lands, works, powers, rights, and privileges shall be conveyed and transferred to or by the company, as the case may require; and all the clauses and provisions of the act under which such contract or agreement may have been entered into, or such lands or works, powers, rights, or privileges, purchased, sold, taken with reference to such contract, agreement, sale, or purchase, or with reference to the payment and application of the purchase money, shall be read and construed as though the company had been named or referred to therein in lieu of the dissolved company by whom such contract or agreement may have been made, or such lands or works, powers, rights, or privileges purchased, sold, or taken.

Clause X. All rights and remedies which at the time of the said dissolution of the said dissolved companies shall be vested in any person under the said acts hereby repealed, or any of them, shall continue and the same shall be enforced as if the said acts had not been repealed; and all penalties and forfeitures to which any person at the time of the said dissolution shall be liable under the said acts hereby repealed, or either of them, shall continue and the same shall

be enforced as if the said acts had not been repealed; and all matters by the said acts or any of them made evidence of any other matter or thing shall continue evidence of such matter or thing as if the said acts had not been repealed, and as if the said acts, so far as they relate to the said rights, remedies, penalties, forfeitures, and evidence, had been herein expressly re-enacted.

Clause XI. All suits, actions, and proceedings which in any court or before any magistrate, but for the passing of this act, might hereafter have been brought or prosecuted in the name of either of the said dissolved companies, may be brought or prosecuted in the name of the company; and that all suits, actions, and proceedings in any court or before any magistrate which, but for the passing of this act, might have been hereafter brought or prosecuted against either of the said dissolved companies, may be brought or prosecuted against the company, and the like judgment and remedy may be had and obtained for or against the company that might have been had and obtained against the dissolved companies respectively if this act had not been passed.

Clause XII. No action, suit, prosecution, or other proceeding whatsoever commenced or carried on by or against either of the dissolved companies previously to the said dissolution thereof, shall abate or be discontinued or be prejudicially affected by this act, but the same shall continue and take effect both in favour of and against the company in the same manner in all respects as if the said action and prosecution or proceeding had originally been commenced by or against the company: provided always, that any such action, suit, prosecution, or other proceeding shall be continued in the name of the dissolved company by or against which the same had been originally commenced, and in the same form, as if this act had not been passed.

Clause XIII. All officers and persons who upon or after the said dissolution of the said dissolved companies shall have in their possession or under their control any money, books, documents, papers, writings, or effects, under or by virtue of any of the provisions of the recited acts respectively, shall be liable to account for and to deliver up all such money, books, documents, papers, writings, or other effects to the company, or to such person as they shall appoint to receive the same, in the same manner, and subject to the same process, pains, and penalties for refusal or neglect, as if such officers or persons had been appointed and had become possessed of such money, books, documents, papers, writings, or other effects under the provisions of this act.

Clause XIV. Extends "The Companies Clauses Consolidation Act, 1845," "The Lands Clauses Consolidation Act, 1845," and "The Gasworks Clauses Act, 1847," to the present act.

Clause XV. Provides that nothing contained in the "Lands Clauses Consolidation Act, 1845," shall authorize the company to take or use any land unless with the consent of and by agreement with the owners, lessees, and occupiers thereof.

Clause XVI. The capital of the company shall on the day on which the same shall become incorporated consist of the sum of *three hundred thousand* pounds.

Clause XVII. The capital of the company shall be divided into *thirty thousand* shares of the amount of *ten* pounds each.

Clause XVIII. Every person and corporation who immediately before and at the time of the said dissolution of the said dissolved companies shall be a proprietor of one or more share or shares in the said Great Central Gas Consumers' Company, shall, in respect of every *one* share so held, be entitled to *one* share in the company hereby incorporated. And every person or corporation who immediately before and at the time of the said dissolution of the said dissolved companies shall be a proprietor of one or more share or shares in the City of London Gas Light and Coke Company shall in respect of every *one* share so held be entitled to *ten* shares in the company hereby incorporated; and such share or shares in the company is and are respectively vested in such person or persons, corporation or corporations accordingly.

Clause XIX. It shall be lawful for the company, in addition to the share capital hereinbefore authorized, to borrow on mortgage or bond or debenture, any sum or sums of money not exceeding in the whole the sum of *one hundred thousand* pounds.

Clause XX. Enacts that shares are to be held on the subsisting trusts.

Clause XXI. Provides for a new register and certificates.

Clause XXII. Subject to the provisions herein contained for increasing or reducing the number of directors, the number of directors of the company shall be *eleven*, and the qualification of a director shall be the possession, in his own right, of *fifty* shares in the undertaking, but such qualification may be increased to any number not exceeding one hundred shares, at any time after the passing of this act by a general meeting of the shareholders lawfully summoned to consider that question.

Clause XXIII. It shall be lawful for the company from time to time to increase or diminish the number of directors of the company; but the whole number of directors, after such an increase or reduction as aforesaid, shall not be greater than *seventeen* nor less than *eight*.

Clause XXIV. John Bradbury, Esq.; Francis Bennoch, Esq.; George Hinton Bovill, Esq.; Frank Clemow, Esq.; James Cousens, Esq.; William Curling, Esq.; Thomas Dakin, Esq.; William Frederick Auguste Delane, Esq.; Thomas Gabriel, Esq.; Robert Alexander Gray, Esq.; Joseph Hadland, Esq.; John Lowe, Esq.; Thomas Hackett Massey, Esq.; Samuel Sangster, Esq.; George Virtue, Esq.; James Warren Esq.; and James Wyld, Esq., member of Parliament, shall be the first directors of the corporation.

Clause XXV. Empowers the Corporation of London to appoint public auditors as in the former act, except that the payment to be made is reduced from three guineas per day and expenses to a fixed sum of £5 for each audit.

Clause XXVI. Gives power to purchase or lease lands not exceeding fifty statute acres.

Clause XXVII. Authorizes the company to continue gas works.

Clause XXVIII. Empowers the company to lay mains through certain districts, but restricts them from supplying gas in those districts.

Clause XXIX. Imposes penalties for supplying gas within certain districts.

Clause XXX. All the gas supplied by the company shall be of such quality as to produce from an argand burner, having fifteen holes and a seven-inch chimney, and consuming five cubic feet of gas per hour, a light equal in intensity to the light produced by twelve wax candles, of six in the pound, burning one hundred and twenty grains per hour, and such gas shall be superior in purity to the gas in common use, supplied at or about the seventh day of December, one thousand eight hundred and forty-nine, by any of the companies who then lighted the City of London, or any part thereof, with gas.

Clause XXXI. It shall not at any time be lawful for the company to demand and receive from any person or corporation who shall use or burn gas manufactured or purchased and supplied by the company, either for public or private use, and used by the meter, any sum exceeding the rate of *four* shillings per one thousand cubic feet of such gas.

Clause XXXII. The clear profits to be divided amongst the proprietors in any year shall not exceed the rate of *ten* pounds in the hundred by the year, on the paid-up capital of the company, unless a larger dividend be at any time necessary to make up the deficiency of any previous dividend which have fallen short of the said yearly rate.

Clause XXXIII. If the clear profit shall in any year amount to a larger sum than is sufficient, after making good the deficiency in the dividends of any previous year or years as aforesaid, to make a dividend at the rate of *ten* pounds in the hundred, the excess beyond the sum necessary for such purpose shall not be invested and form a reserve-fund, as in "The Gas Works Clauses Act, 1847," directed; but shall be applied in making a proportionate reduction in the price to be thenceforth charged by the company for the gas supplied by them; and so from time to time, until the price charged for such gas shall have been reduced to *three* shillings per thousand cubic feet; and when and as soon as the price charged by the company for gas supplied by them shall have been reduced to *three* shillings per thousand cubic feet, the excess beyond the sum necessary for the purpose of making a dividend at the rate of *ten* pounds in the hundred shall be applied in the manner directed by "The Gas Works Clauses Act, 1847."

Clause XXXIV. Nothing in this or any act incorporated herewith shall prevent the company from recovering the rent of any gas, or the price or rent of any pipe, burner, meter, lamp, or fittings, supplied, sold, delivered, or let to hire by the company, by such action or proceeding, or in such manner as is provided by law for the recovery of debts under fifty pounds; *and the register of the meter shall be* primâ facie *evidence of the quantity of gas consumed by any customer of the company, and in respect of which any rent may be charged and sought to be recovered by the company.*

Clause XXXV. Any sum of money which shall be determined by any one justice or any two justices by virtue of "The Gas Works Clauses Act, 1847," incorporated herewith, to be due to the company for the rent of gas, or the hire of any meter or fittings, shall or may be levied by distress.

Clause XXXVI. Every person who shall knowingly and wilfully prevent any meter from duly registering the quantity of gas supplied by the company shall for every such offence forfeit and pay to the company a penalty not exceeding *fifty* pounds; and any such prevention caused by artificial means shall be *primâ facie* evidence of such knowledge on the part of the consumer using any such meter: provided always, that nothing herein contained shall prevent the operation of the provisions contained in "the Gas Works Clauses Act, 1847," with respect to waste or misuse of the gas, or injury to pipes or other works of the company,

Clause XXXVII. Imposes a penalty on the company for supplying gas of inferior quality.

Clause XXXVIII. Empowers the Corporation of London to appoint persons to test the quality of gas.

Clause XXXIX. Empowers the Corporation of London to appoint inspectors of gas meters.

Clause XL. Compels the company to supply meters and service pipes gratuitously, and renders the removal of them felony.

Clause XLI. The company shall not take up the pavement or otherwise disturb the surface of any street within the City of London or the liberties thereof, for the purpose of laying down, altering, or removing any pipe, or for any other purpose whatever, without the previous consent in writing of the Commissioners of Sewers of the City of London, under the hand of their clerk; every such consent to state the name of the street in which the pavement is permitted to be taken up, and the number of square feet of pavement which may be removed or disturbed; and if the company shall take up or disturb the pavement or surface of any street within the City of London or the liberties thereof, without such previous consent as aforesaid, or shall take up or disturb a greater number of square feet of pavement or surface than shall be permitted by such consent, the company shall forfeit and pay the sum of forty shillings for every square foot of pavement which shall be so taken up or disturbed.

Clause XLII. Whenever it shall be necessary from any cause whatever for the company to break up or open the pavement, surface, or soil of any street within the City of London, or the liberties thereof, such street, and the pavement, surface, and soil thereof, shall be broken up and opened under the superintendence of the Commissioners of Sewers of the City of London, at such time and in such a manner as they, or their surveyor, inspector, or other officer shall direct.

Clause XLIII. If the company shall be desirous of laying down in any street within the City of London or the liberties thereof, any new line of main pipes for gas, or of altering the pipes, or the line of any existing main in any street within the said city or liberties, they shall give at least three months' notice in writing to the Commissioners of Sewers of the City of London of such desire, and shall state in such notice the name of the street and the particular part thereof in which such line of main pipe is intended to be laid down, and the material

and diameter of such pipes, and the day on which the work is proposed to be commenced, and the time within which it will be completed.

Clause XLIV. If the company shall displace, take up, or make any alteration in the pavement of any carriage or foot way in any street within the City of London or the liberties thereof without the consent in writing of the Commissioners of Sewers of the City of London, or shall cause any obstruction in any street within the said city or the liberties thereof, the company shall for every such offence forfeit a sum not exceeding five pounds, and in case the company shall not within twenty-four hours after notice in writing by the surveyor of the said commissioners cause the said pavement which shall have been so displaced, taken up, or altered, to be reinstated and put in its proper state, or such obstruction to be removed, then, and in any such case, the said commissioners may cause the same to be done, and the costs and charges thereof shall on demand be paid to them by the company, and in default thereof shall be recovered from the company in the manner hereinafter provided.

Clause XLV. When and as often as in the judgment of the Commissioners of Sewers of the City of London, or of their surveyor for the time being, it shall be necessary that any part of the pavement of any street within the said city or the liberties thereof in which any main or pipe may have been driven or laid, or any opening for any purpose whatever made by the company, should be taken up and relaid, by reason or in consequence of any such main or pipe having been driven or laid, or any such opening having been made therein by the company, it shall be lawful for the said commissioners to cause any part of the pavement of such street, or the whole of the pavement of such street (if in the judgment of the said surveyor it shall be necessary in consequence of any act of the company that the whole of such pavement should be taken up), to be taken up and relaid, or otherwise repaired, and so from time to time, as often as in the judgment of the said commissioners any such necessity shall arise; and the full amount of the costs, charges, and expenses incurred thereby, or in any manner incident thereto, after the same shall have been ascertained and certified by the surveyor of the said commissioners, shall be immediately paid to the said commissioners by the company, and in default of payment thereof may be recovered by the said commissioners from the company in the same manner as any other moneys are by this act directed to be recovered by the said commissioners from the company: provided always, that the company shall not be liable to repay or make good the costs, charges, and expenses of taking up and relaying the pavement of any street which may have been disturbed by the works of the company after the expiration of three years from the time when the pavement of such street was last taken up or relaid for the purpose of laying or relaying or examining such mains or pipes as aforesaid.

Clause XLVI. For the more speedy and effectual repairing and relaying the pavements of any street within the City of London, or the liberties thereof, which shall at any time hereafter happen to be sunk, broken, injured, or damaged by reason or means of the breaking, bursting, or want of repair of any pipe belonging to the company, and laid beneath the surface of such pavement, or of relaying or repairing any such pavement which shall be broken or taken up for the purpose of repairing or amending any such pipe, it shall be lawful for the Commissioners of Sewers of the City of London, if they shall deem it proper and expedient so to do, to cause notice to be given to the company forthwith, well and sufficiently to repair and make good such pavement, and if the company shall not within twenty-four hours next after such notice so given to them as aforesaid, take up such pavement, and well and sufficiently repair and amend such pipe, and cause the ground to be well and sufficiently filled in and rammed down, and the said pavement to be relaid and repaired to the satisfaction of the said commissioners, then the company shall for every such offence forfeit and pay any sum not exceeding twenty pounds.

Clause XLVII. Whenever the pavement, surface, or soil of any street within the City of London or the liberties thereof shall be broken up or opened, it shall be lawful for the Commissioners of Sewers of the City of London, in case they shall think it expedient so to do, to direct their contractor to fill in the ground, and to make good the pavement, or surface, or soil so broken up or opened, and to carry away the rubbish occasioned thereby, instead of permitting such work to be done by the company; and the costs and expenses of filling in such ground, and of making good the pavement or soil so broken up or opened, after having been certified by the surveyor of the said commissioners, shall be repaid on demand to the said commissioners by the company; and in default thereof shall be recovered by the said commissioners from the company, in the manner hereinafter mentioned.

Clause XLVIII. If the company shall take up any part of the pavement, or otherwise disturb the surface of any street within the City of London or the liberties thereof, for the purpose of laying down, altering, or repairing any gas-pipe, or for any other lawful purpose, and shall not, with due diligence, cause the ground to be filled in, and the pavement to be reinstated, and the surface to be made good in a proper and substantial manner, and shall not in the meantime fence and guard the same, and affix and maintain lights during the night near to the places where any ground shall be open, so as to prevent any accident, the company shall for every such offence forfeit a sum not exceeding five pounds; and it shall be lawful for the Commissioners of Sewers of the City of London to fill in such ground, and to remove such rubbish, and to repair and make good the pavement of any such street so broken up, and properly to fence or guard any such excavation, and to place and maintain lights during the night to prevent accidents, as to them shall seem necessary, and the reasonable costs and charges thereof shall be paid by the company to the treasurer of the said commissioners, and in default of payment thereof, the amount thereof shall be recovered from the company, as any penalty is recoverable under "The Companies' Clauses Consolidation Act, 1845:" provided always, that such pavement shall not be considered to have been reinstated in a proper and substantial manner by the company, unless the same shall have been reinstated with the same or similar materials of the like quality and thickness, and cemented and bound together in the same, or in an equally substantial manner as those of which it was composed, in such manner as shall be satisfactory to the said commissioners.

Clause XLIX. If in the execution of the powers by this act granted, the company shall in any way injure or damage any gully, ventilating shaft, or other appliance of the sewers of the City of London, such injury or damage shall be made good by the Commissioners of Sewers of the City of London, or their contractor, at the expense of the company, and the costs and expenses of repairing and making good the same shall, after the amount thereof shall have been certified by the surveyor of the said commissioners, be repaid, on demand to the said commissioners, by the company; and in default thereof shall be recovered by the said commissioners from the company, in the manner hereinafter mentioned.

Clause L. If any question shall arise between the company and the Commissioners of Sewers of the City of London relative to the proper reinstatement, or sufficient or insufficient repair of any pavement within the City of London or the liberties thereof, under the provisions of this act, it shall be lawful for any justice, upon complaint before him, to summon the clerk or engineer, or other officer of the company, and of the said commissioners respectively, and to hear and determine the matter in a summary way, and to award and adjudge such sum of money by way of damage against the company, together with such costs and charges as to such justice shall seem proper, and the amount of such damages, costs, and charges so awarded and adjudged shall be recovered from the company by distress and sale of their goods and chattels, in the same manner as any penalty is recoverable under "The Companies' Clauses Consolidation Act, 1845:" provided always, that it shall not be competent for any justice to hear and determine any such question as aforesaid, unless twenty-four hours' notice shall have been given by the complaining party to the other party of the intended application to such justice, with the grounds of such complaint.

Clause LI. Reserves the rights of the Commissioners of Sewers of the City of London.

Clause LII. Excepts the Commercial-road trustees from the operations of this act.

Clause LIII. Requires notice to be given to metropolitan commissioners of sewers of interference with drains.

Clause LIV. The costs and expenses incurred in obtaining this act, and all expenses incurred preparatory or relating thereto, shall be paid by the directors out of the first money which shall be received by them, or by the company, under the authority of this act.

Clause LV. No penalty or forfeiture imposed by this act or by the said incorporated acts or any of them for or in respect of any act or default of the company shall be cumulative on any other penalty or forfeiture imposed for or in respect of the same act or default; but it shall be lawful for any person entitled to proceed for any such penalty or forfeiture to elect to proceed under any of the said incorporated acts.

Clause LVI. This act shall be deemed a public act, and shall be judicially taken notice of as such.

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Western Gas Company.—The shareholders in this company have at last the prospect of a dividend. Some of them expect it will reach 4s. per share, or at the rate of 2 per cent. per annum; and we trust they will not be disappointed, for a more patient body of shareholders it is scarcely possible to conceive.

Gravesend.—The lamp and pavement commissioners, by a majority of 10 to 6, have refused permission to the owners of the gas works now building at Northfleet, to extend their mains into Gravesend. The old company have reduced the price of gas to 4s. 6d.; the new parties proposed to supply it at 4s. 2d. per 1000 feet.

Sheffield Consumers' Gas Company.—Mr. G. H. Palmer, the late engineer of the Western Gas Company, Kensall-green, has been appointed engineer to this company, and a call made of 10s. per share.

Solid Gas.—Dr. Lyon Playfair delivered a lecture at the Royal Institution on the 27th ult., on "Certain applications of chemistry to the industrial arts;" in the course of which he referred to Mr. Young's process for obtaining paraffine from coal by slow distillation. Some years ago Liebig stated that one of the greatest discoveries of chemistry would consist in converting coal gas into a solid form, thus enabling it to be burned like a candle. This had, in a manner, been accomplished by Mr. Young. About three years since, Dr. Playfair drew the attention of Mr. Young to a spring of mineral oil containing paraffine, and occurring in a coal mine in Derbyshire. The liquid had been extensively applied by Mr. Young as a lubricating agent, a use to which Reichenbach had long ago suggested it might be turned. After a period, however, this spring ceased to flow, when Mr. Young applied himself to an investigation of the theoretical conditions under which it might be artificially formed. This gentleman saw that it would be difficult to convert gas into an allotropic form, whereas it was evident that gas must first come from a solid; hence he hoped to succeed in hitting upon the intermediate state. He stated the illuminating portion of coal gas to consist chiefly of olefiant gas ($C^2$), and the latter was isomeric with solid paraffine. But the allotropism does not end here; the peculiar slow distillation of coals yielding solid paraffine, also yielded other isomeric or allotropic compounds in the form of a lubricating oil, a burning oil, and naphtha. Dr. Playfair explained, by the aid of a diagram, the slow distillation process of Mr. Young, employed in generating his allotropic form of olefiant gas, and directed the attention of his audience to some candles made of coal paraffine on the lecture table.

# Share List.

THE PRICES QUOTED ARE THOSE AT WHICH THE LAST SALES HAVE BEEN MADE.

*The Companies whose names are printed in italic type are incorporated by Act of Parliament.*

| Number of Shares issued. | Amount per Share | Name of Company. | Amount paid up per Share | Dividend per Cent. per Ann. | Price. |
|---|---|---|---|---|---|
| | £ | **ENGLAND.** | £ s. d | £ s. d | £ s. d |
| | | Aberdare | | | |
| | | Aberystwith | | | |
| | | Abingdon | | | |
| | | *Accrington* £7000 | | 5 0 0 | |
| | | Albrighton | | | |
| | | Alcester | | | |
| | | Alford, Lincolnsh. | | | |
| | | Alfreton | | | |
| | | Alnwick | | | |
| | | Alston Moor | | | |
| 250 | 10 | Alton | 10 0 0 | 5 0 0 | 10 0 0 |
| 800 | 5 | Altrincham | 5 0 0 | 6 0 0 | |
| | | Amlwch | | | |
| 160 | 10 | Ampthill | 10 0 0 | 5 0 0 | 10 0 0 |
| 350 | 10 | Andover | 10 0 0 | 6 0 0 | 11 0 0 |
| | | Appleby | | | |
| | | Arundel | | | |
| | | Ashbourn, Derby | | | |
| | | Ashburton | | | |
| | | Ashby-de-la-Zouch | | | |
| | | Ashford, Kent | | | |
| 1600 | 25 | *Ashton-under-Lyne* | 25 0 0 | 10 0 0 | 52 0 0 |
| | | Atherstone | | | |
| | | Axminster | | | |
| 200 | 20 | Aylesbury | 20 0 0 | 5 0 0 | 21 0 0 |
| | | Aylsham, Norfolk | | | |
| | | Bacup, Lancashire | | | |
| | | Bakewell | | | |
| | | Baldock | | | |
| 140 | 25 | Banbury | 25 0 0 | 10 0 0 | 50 0 0 |
| | | Bangor | | | |
| 500 | 5 | Barking, Essex | 4 10 0 | 5 11 0 | 5 0 0 |
| 250 | 10 | Barnard Castle | 10 0 0 | 5 10 0 | 10 15 0 |
| | | Barnet | | | |
| | | *Barnsley* £6000 | | 7 10 0 | |
| 100 | 20 | Barnstaple | 20 0 0 | 5 0 0 | 23 0 0 |
| | | Barton | | | |
| 120 | 25 | Basingstoke | 25 0 0 | 8 0 0 | 28 0 0 |
| 2400 | 20 | *Bath* | 16 0 0 | 6 0 0 | 25 to 30 |
| | | Battle £2000 | | 6 0 0 | |
| 56 | 26¼ | Bawtry | 26 10 0 | 5 0 0 | 25 0 0 |
| | | Beaumaris | | | |
| | | Beccles, Bungay, and Lowestoft | | | |
| | | Bedford | | | |
| | | Bedworth | | | |
| | | Belford | | | |
| | | Bedale, Yorkshire | | | |
| | | Belper | | | |
| | | Beminster | | | |
| | | Berkhempstead | | | |
| 700 | 5½ | Berwick-on-Tweed | 5 10 0 | 6 8 0 | 5 15 0 |
| | | Beverley | | | |
| | | Bewdley | | | |
| 280 | 10 | Bideford | 10 0 0 | 6 0 0 | 10 10 0 |
| | | Biggleswade | | | |
| 160 | 10 | Bicester | 10 0 0 | 5 0 0 | 10 0 0 |
| | | *Bilston* £15,100 | | 8 0 0 | |
| | | Billericay | | | |
| | | *Bingley* £7400 | | 4 0 0 | |
| | | *Birkenhead* £70,000 | 35 0 0 | 3 0 0 | 35 to 37 |
| 2400 | 50 | *Birmingham and Staffordshire* | 50 0 0 | 10 0 0 | 93 to 94 |
| | 25 | *Ditto*, new shares | 7 10 0 | 10 0 0 | 12 0 0 |
| 928 | 75 | *Birmingham* | 75 0 0 | 10 0 0 | 149 to 151 |
| | | Bishop's Auckland | | | |
| 140 | 25 | Bishop's Stortford | 25 0 0 | 5 0 0 | 24 0 0 |
| | | *Blackburn* £30,000 | | 10 0 0 | |
| | | Blackpool | | | |
| | | Blandford | | | |
| | | Blythe | | | |
| | | Bodmin | | | |
| | | Bognor | | | |
| | | *Bolton* £8,582 | | 9 19 5 | |
| | | Boroughbridge | | | |
| | | *Boston* £8000 | | 10 0 0 | |
| 200 | 10 | Bourn | 10 0 0 | 5 0 0 | |
| | | Brackley | | | |
| | | Bradford, Wilts | | | |
| | | *Bradford, Yorksh.* £45,000 | | 9 10 0 | |
| | | Brampton, Cumb. | | | |
| | | Brandon, Suffolk | | | |
| | | Brecon | | | |
| | | Bridge-end, Glam. | | | |
| | | *Brierly Hill* | | | |
| 2250 | 20 | *Brighton* | 20 0 0 | 5 0 0 | 14 to 15 |
| 1125 | 20 | „ new shares | 16 0 0 | 5 0 0 | |
| | | *Brighton and Hove* £50,276 | | 3 10 0 | |
| 4250 | 20 | *Bristol* | 20 0 0 | 9 0 0 | 37 0 0 |
| 1725 | 25 | *Bristol and Clifton* | 25 0 0 | 6 0 0 | 25 0 0 |
| | | Brixham | | | |
| | | Braintree | | | |
| 750 | 50 | *Brentford* | 50 0 0 | 6 0 0 | 44 to 46 |
| 800 | 25 | „ new shares | 11 0 0 | 6 0 0 | 11 0 0 |
| | | Brentwood | | | |
| | | *Bridgwater* £6000 | | 5 0 0 | |
| 400 | 10 | Bridlington | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Bridport | | | |
| | | Brigg | | | |
| | | Broadstairs | | | |
| 100 | 50 | Bromley, Kent | 50 0 0 | 6 0 0 | 52 10 0 |
| | | Bromsgrove | | | |
| | | Broughton | | | |
| 120 | 10 | Bruton | 10 0 0 | 4 0 0 | 8 0 0 |
| 100 | 25 | Buckingham | 25 0 0 | 5 0 0 | 25 0 0 |
| | | Bungay (see Becls.) | | | |
| | | Burford | | | |
| | | *Burnley* £19,946 | | 4 10 2 | |
| | | Burslem & Tunstall | | | |
| | | Burton-on-Trent | | | |
| | | *Bury, Lanc.* £6570 | | | |
| | | *Bury St. Edmund's* | | 5 0 0 | |
| 200 | 10 | Buxton | 10 0 0 | | |
| | | Callington | | | |
| | | Calne, Wilts | | | |
| | | Camborne | | | |
| | | *Cambridge* £34,560 | | 7 0 0 | |
| 240 | 50 | *Canterbury* | 50 0 0 | 6 0 0 | 57 to 58 |
| 240 | 25 | *Ditto*, second issue | 25 0 0 | 6 0 0 | 28 to 29 |
| | | *Cardiff* £12,000 | | 7 10 0 | |
| | | Carmarthen | | | |
| | | Castleford | | | |
| | | Chapel on the Frith | | | |
| | | Chard | | | |
| | | *Chatham* (see Roch. | | | |
| | | Chatteris | | | |
| | | Cheadle | | | |
| | | Chelmsford | | | |
| | | *Cheltenham* £18,732 | | 8 10 0 | |
| | | Chepstow | | | |
| | | Chertsey | | | |
| 230 | 10 | Chesham, Bucks | 10 0 0 | | |
| | | Chester | | | |
| | | Chester-le-Street | | | |
| | | *Chesterfield* £13,123 | | 4 17 6 | |
| 240 | 25 | Chichester | 25 0 0 | 6 0 0 | 30 0 0 |
| | | Chippenham | | | |
| | | Chipping Norton | | | |
| | | Chirk | | | |
| | | Chorley | | | |
| | | Chudleigh | | | |
| | | Cirencester | | | |
| | | *Clifton (Bristol and* | | | |
| | | Cleckheaton, York. | | | |
| | | Clithcroe | | | |
| | | Cockermouth | | | |
| | | Colchester | | | |
| | | Collumpton | | | |
| | | Colne, Lancashire | | | |
| | | Coleford, Gloucest. | | | |
| | | Coggeshall | | | |
| | | *Congleton* £5000 | | 5 0 0 | |
| | | Cookstown | | | |
| | | Cowbridge | | | |
| | | Corsham | | | |
| 800 | 25 | *Coventry* | 25 0 0 | 6 0 0 | 24 to 25 |
| | | Cowes | | | |
| | | Crewkerne | | | |
| | | *Croydon* ... £20,000 | | 5 0 0 | |
| | | Cranbrook ... £1900 | | 5 0 0 | |
| | | Crayford | | | |
| | | Crediton | | | |
| | | Crewe, Cheshire | | | |
| | | Cricklade | | | |
| | | Darlaston | | | |
| | | *Darlington* | | | |
| 250 | 20 | Dartford | 20 0 0 | 7 10 0 | 27 0 0 |
| | | Dartmouth | | | |
| 125 | 20 | Daventry | 20 0 0 | 6 0 0 | 24 8 0 |
| | | Dawley, Salop | | | |
| | | Dawlish | | | |
| | | Dedington | | | |
| 500 | 6 | Denbigh | 6 0 0 | 5 0 0 | 6 0 0 |
| 820 | 10 | Deptford | 10 0 0 | 5 0 0 | 4 10 0 |
| 325 | 50 | *Derby* | 50 0 0 | 10 0 0 | |
| 90 | 20 | Dereham (East) | 20 0 0 | 4 10 0 | |
| 1000 | 5 | *Dewsbury* | 5 0 0 | 10 0 0 | 8 12 6 |
| | | Devizes | | | |
| 4000 | 5 | *Devonport* | 5 0 0 | 6 0 0 | 6 5 0 |
| | | Doncaster | | | |
| 280 | 25 | Dorchester | 25 0 0 | 5 0 0 | 30 0 0 |
| 120 | 25 | Dorking | 20 10 0 | 5 0 0 | 21 10 0 |
| | | Douglas, Isle of M. | | | |
| 209 | 56¼ | *Dover* | 56 10 0 | 5 15 0 | 63 0 0 |
| | | Downham | | | |
| | | Driffield | | | |
| | | Droitwich | | | |
| 600 | 20 | *Dudley* | 20 0 0 | 4 0 0 | 20 to 21 |
| | | Droylsden | | | |
| | | Dunmow | | | |
| | | Dunstable | | | |
| | | Durham | | | |
| 276 | 9 | Dursley, Gloster | 9 0 0 | 5 10 0 | 8 0 0 |
| | | Eastbourne | | | |
| | | East Grinstead | | | |
| | | Elland | | | |
| | | Ellesmere | | | |
| | | Eltham | | | |
| | | Enfield | | | |
| 360 | 19 | Epsom and Ewell | 19 0 0 | | |
| | | Evesham | | | |
| | | *Exeter* £40,000 | | 10 0 0 | |
| | | Exmouth | | | |
| | | Eye, Suffolk | | | |
| 61 | 25 | Fakenham | 25 0 0 | 5 0 0 | 25 0 0 |
| | | Falmouth | | | |
| | | Fareham | | | |
| 120 | 25 | Farnham | 25 0 0 | 10 0 0 | 42 0 0 |
| | | Farringdon | | | |
| | | Faversham | | | |
| | | Ferrybridge | | | |
| | | Fleetwood | | | |
| 300 | 10 | Folkestone | 10 0 0 | 10 0 0 | 15 0 0 |
| 240 | 10 | „ new shares | 8 0 0 | 10 0 0 | 13 0 0 |
| | | Fowey | | | |
| 240 | 5 | Framlingham | 5 0 0 | 5 0 0 | 5 0 0 |
| | | Frome | | | |
| | | Garstang | | | |
| | | Gillingham, Dorset | | | |
| | | Glastonbury | | | |
| | | *Glossop* ... £10,000 | | 9 0 0 | |
| 1000 | 25 | *Gloucester* | 25 0 0 | 7 10 0 | 28 0 0 |
| | | Gomersal | | | |
| | | Godalming | | | |
| | | Gosport | | | |
| | | Grantham | | | |
| 20 | | Gravesend | 20 0 0 | 5 0 0 | 21 0 0 |
| 1000 | 10 | *Great Grimsby* | 8 0 0 | 8 0 0 | 12 to 12¼ |
| 1000 | 25 | Guildford | 25 0 0 | 4 0 0 | 20 0 0 |
| | | Guisborough | | | |
| | | Hadleigh | | | |
| | | Hales Owen | | | |
| 300 | 6 | Halesworth | 6 0 0 | 7 10 0 | 5 10 0 |
| | | *Halifax* £15,000 | | 10 0 0 | |
| | | Halstead | | | |
| | | Hampton Court | | | |
| | | *Harrogate* £10,000 | | 5 0 0 | |
| | | *Hartlepool* £15,137 | | 7 10 0 | |
| | | Haslingden, Lanash | | | |
| 330 | 50 | Hastings and St. L | 50 0 0 | 6 0 0 | 60 0 0 |
| | | Haverfordwest | | | |
| | | Haverhill | | | |
| | | Haworth, Yorks. | | | |
| | | Hayle | | | |
| | | Helstone | | | |
| | | Hemel Hempstead | | | |
| 300 | 10 | Henley-on-Thams. | 10 0 0 | | |
| | | *Hereford* £5300 | | 4 0 0 | |
| | | Herne Bay | | | |
| 270 | 10 | Hexham | 10 0 0 | 7 0 0 | 12 0 0 |
| | | *Heywood* £10,000 | | 5 0 0 | |
| 230 | 10 | Highworth (Wilts) | | | |
| | | Hinckley | 10 0 0 | 5 0 0 | 7 0 0 |
| | | Hindley, Lancash. | | | |
| | | Hitchen | | | |
| | | Hythe | | | |
| | | Hoddesden | | | |
| | | Holbeach | | | |
| | | *Holmfirth* £8880 | | 3 10 0 | |
| | | Holyhead | | | |
| | | Holywell (see British Provincial) | | | |
| | | Honiton | | | |
| | | Hornecastle | | | |
| | 10 | Houghton-le-Sprg. | 10 0 0 | 8 0 0 | |
| | | Horsham | | | |
| | | Howden | | | |
| | | Hull, Sculcoats (see British Provin.) | | | |
| | | *Hull*, £11,712. 10s. | | 5 0 0 | |
| | | Hunmanby | | | |
| 210 | 10 | Hungerford | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Huddersfield | | | |
| 520 | 5 | High Wycombe | 5 0 0 | 6 0 0 | 5 0 0 |
| | | Ilminster | | | |
| | | Ilford | | | |
| | | Ilfracombe | | | |
| | | Ironbridge | | | |
| 1400 | 10 | *Ipswich* | 10 0 0 | 8 0 0 | 15 0 0 |
| 1400 | 10 | „ new shares | 7 10 0 | 8 0 0 | 12 10 0 |
| 800 | 25 | *Isle of Thanet* | 20 0 0 | 5 0 0 | 20 to 21 |
| | | *Kendal* £9100 | | 8 15 0 | |
| | | Kenilworth | | | |
| | | Keswick | | | |
| 100 | 25 | Kettering | 25 0 0 | 5 0 0 | 25 0 0 |
| | | *Kiddermins.* £10000 | | 5 0 0 | |
| | | King's Langley | | | |
| | | Kington, Hereford | | | |
| | | Kirkby Lonsdale | | | |
| | | Kirkham, Lanc. | | | |
| | | Knutsford | | | |
| | | Lancaster | | | |
| | | *Llanelly* £3000 | | 5 0 0 | |
| | | Llandovery | | | |
| | | *Leamington Priors* £22,500 | | 6 0 0 | |
| | | Leatherhead | | | |
| | | Ledbury | | | |
| | | *Leeds Old Comp.* old stk., £60,300 | | 10 0 0 | |
| | | new „ £23,775 | | 6 0 0 | |
| | | *Leeds New* £60,000 | | 10 0 0 | |
| | | Leek | | | |
| | | *Leicester* ... £36,230 | | 7 0 0 | |
| | | Leigh | | | |
| 125 | 20 | Leighton Buzzard | 20 0 | 5 0 0 | |
| | | Leominster | | | |
| | | Leyburn, Yorksh. | | | |
| | | Liskeard | | | |
| 330 | 25 | Lewes | 25 0 0 | 5 0 0 | 25 0 0 |
| | | *Lincoln* £8000 | | 10 0 0 | |
| | | Leyland, Lancash. | | | |
| | | Littlehampton | | | |
| 250 | 20 | Lichfield | 20 0 0 | 10 0 0 | 30 0 0 |
| | | *Liverpool United* | 100 0 0 | 10 0 0 | 205 to 207 |
| | | „ ¼ sh. | 25 0 0 | 10 0 0 | 51 to 52 |
| | | Langport | | | |
| | | London Comps.— | | | |
| 40 | | *British* | 18 0 0 | 1 18 10 | |
| 5000 | 20 | „ Provincial— (Holywell, Hull, Norwich, Potteries, Trowbridge) | 20 0 0 | 7 0 0 | 18 to 20 |
| | 20 | „ Prov., new | 10 0 0 | 7 0 0 | 7 to 9 |
| | 25 | *Commercial* | 25 0 0 | 6 0 0 | 25 to 26 |
| | 25 | „ new shares | 15 0 0 | 6 0 0 | part to dis |
| | 25 | „ | 2 10 0 | 6 0 0 | part to dis |
| | 50 | *Chartered* | 50 0 0 | 5 0 0 | 40 to 41 |
| | 50 | „ new shares | 10 0 0 | 5 0 0 | 7¾ to 8¼ |
| | 150 | *City of London* | 150 0 0 | 4 0 0 | 130 to 132 |
| | 50 | *Equitable* | 50 0 0 | 2 10 0 | 25 to 26 |
| | | „ debentures £46,000 | | | |
| | 20 | European— (Amiens, Boulogne, Caen, Havre, Nantes, and Rouen) | 20 0 0 | 5 0 0 | 10 to 12 |
| | 20 | „ do. new | 7 0 0 | 5 0 0 | 5 to 7 |

| Number of Shares issued. | Amount per Share | Name of Company. | Amount paid up per Share | Dividend per Cent. per Ann. | Price. |
|---|---|---|---|---|---|
| | £ | | £ s. d | £ s. d | £ s. d |
| 15,000 | 10 | *Gt.Cntl.Consumers* | 10 0 0 | 5 0 0 | 10 to 12 |
| | | *Impl.Continental* | | | |
| 8000 | 50 | —First capital (Amsterdam, Berlin, Ghent, Hanover, Lille, Rotterdam)..... | 42 0 0 | 5 19 0 | 41 to 43 |
| 7000 | 50 | Second capital—(Aix la Chapelle, Antwerp, Bordeaux, Brussels, Cologne, Frankfort-on-Maine, Haarlem, Marseilles, Toulouse Vienna) ..... | 41 0 0 | 9 15 0 | 62 to 65 |
| | 50 | Third capital ... | 43 10 0 | 8 16 0 | 58 to 60 |
| 10,000 | 50 | *Imperial* ..... | 50 0 0 | 6 0 0 | 66 to 68 |
| 3000 | 50 | „ new shares | 45 0 0 | 6 0 0 | 60 to 62 |
| | | „ debentures £50,500 | | | |
| 4000 | 40 | *Independent* ... | 40 0 0 | 6 0 0 | 46 to 47 |
| 3000 | 50 | *London* ..... | 50 0 0 | | |
| 6000 | 25 | „ preference | 10 0 0 | 6 0 0 | 10 0 0 |
| 3000 | 50 | „ 2nd do. ... | 50 0 0 | | 15 to 18 |
| 9000 | 50 | *Phœnix* ..... | 49 0 0 | 3 10 0 | 24 to 25 |
| 1000 | 100 | *Ratcliff* ..... | 90 0 0 | 5 0 0 | 60 to 65 |
| 4000 | 25 | *South Metrop.* ... | 25 0 0 | 6 0 0 | 21¼ to 22½ |
| | | Surrey Consumers' | | | |
| 9000 | 50 | United General—(Cork, Dublin, Limerick) ..... | 50 0 0 | 2 0 0 | 16 to 17 |
| 12,500 | 20 | Western ..... | 20 0 0 | | 7 0 0 |
| | | Lostwithiel ..... | | | |
| | | Loughborough..... | | | |
| 240 | 25 | *Louth*..... | 25 0 0 | 6 0 0 | 26 10 0 |
| | | Lowestoft (see Bec. | | | |
| 611 | 5 | Ludlow Union..... | 5 0 0 | 6 0 0 | 5 0 0 |
| | | Luton..... | | | |
| | | Lutterworth..... | | | |
| | | Lyme Regis ..... | | | |
| | | Lymington ..... | | | |
| | | Malmesbury..... | | | |
| | | *Macclesfield*32,000£ | | 3 15 0 | |
| | | Maidenhead..... | | | |
| 300 | 50 | *Maidstone*..... | 50 0 0 | 10 0 0 | 90 0 0 |
| | | Maldon ..... | | | |
| | | Marlborough ..... | | | |
| | | Malton (New)..... | | | |
| | | Malvern..... | | | |
| | | Manningtree ..... | | | |
| | | *Mansfield* £5000 | | 10 0 0 | |
| | | March ..... | | | |
| | | *Margate*(see I. of T. | | | |
| | | Market Deeping... | | | |
| | | Market Drayton ... | | | |
| 132 | 25 | Market Harboro' | 25 0 0 | 6 0 0 | 30 0 0 |
| | | Market Raisin..... | | | |
| | | Market Weighton | | | |
| | | Marlow ..... | | | |
| 370 | 10 | Maryport ..... | 10 0 0 | 6 0 0 | 12 0 0 |
| | | Melksham..... | | | |
| | | Melton Mowbray . | | | |
| | | Merthyr Tydvil ... | | | |
| | | Mere ..... | | | |
| | | *Middleton* £9039 | | 5 0 0 | |
| | | MidsummerNorton | | | |
| | | Middlesboro' ..... | | | |
| | | Mildenhall ..... | | | |
| | | Mitcham ..... | | | |
| | | Mold ..... | | | |
| 700 | 10 | Monmouth ..... | 10 0 0 | 5 0 0 | |
| | | Monk Wearmouth | | | |
| | | Moreton in Marsh | | | |
| | | Morley ..... | | | |
| | | Mottram ..... | | | |
| | | Morpeth ..... | | | |
| | | Nantwich ..... | | | |
| | | Neath..... | | | |
| | | Needham Market.. | | | |
| | | *Newark*..... £5000 | | 10 0 0 | |
| 250 | 20 | Newbury ..... | 20 0 0 | 5 0 0 | 20 0 0 |
| 13,000 | 5 | Newcastle & Gateshead Union ..... | 5 0 0 | 8 0 0 | 8 0 0 |
| | | *Newcastle-under-Lyne* £6200 | | 4 0 0 | |
| 600 | 5 | Newmarket ..... | 5 0 0 | 6 0 0 | 5 0 0 |
| | | Newnham, Glost. | | | |
| | | Newent ..... | | | |
| | | *New Mills* £2115 | | | |
| | | *Newport, M.* £11720 | | 8 0 0 | |
| 320 | 50 | *Newport, Isle of W.* | 38 0 0 | 4 0 0 | 17 to 19 |
| | | Newport Pagnell | | | |
| | | Newport, Salop ... | | | |
| | | Newton Abbot..... | | | |
| | | Newton, Lanc..... | | | |
| | | Northallerton ..... | | | |
| | | North Walsham ... | | | |
| 542 | 20 | *Northampton* ..... | 18 0 0 | 10 0 0 | 27 0 0 |
| | | Northwich ..... | | | |
| | | *Norwich* (see British Pro. £40,000 | | 7 0 0 | |
| 900 | 50 | *Nottingham* ..... | 50 0 0 | 10 0 0 | |
| 900 | 50 | New shares ..... | | 10 0 0 | |
| | | Nuneaton ..... | | | |
| | | Oakham..... | | | |
| | | Oakhampton ..... | | | |
| 200 | 10 | Odiham, Hants..... | 10 0 0 | 4 0 0 | 10 0 0 |
| | | *Oldham* ..... | | | |
| | | Olney ..... | | | |
| | | Ongar..... | | | |
| | | Ormskirk ..... | | | |
| | | Otley, Yorkshire... | | | |
| | | Oundle ..... | | | |
| 120 | 150 | *Oxford* ..... | 150 0 0 | 8 0 0 | 260 0 0 |
| | | *Over Darwen* £8000 | | 5 0 0 | |
| | | Padstow ..... | | | |
| | | Pately Bridge, Yrk. | | | |
| 250 | 20 | Penrith ..... | 15 0 0 | 6 10 0 | 21 0 0 |
| | | Penryn ..... | | | |
| | | Penzance ..... | | | |
| 200 | 10 | Petworth .... ..... | 10 0 0 | 8 0 0 | 12 0 0 |
| | | Petersfield ..... | | | |
| | | Pickering ..... | | | |
| 3000 | 10 | *Plymouth* ..... | 10 0 0 | 6 0 0 | 11 0 0 |
| | | Pocklington ..... | | | |
| | | Pontefract..... | | | |
| 400 | 10 | *Pontypridd* ..... | | | |
| | | Poole ..... | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Port Madoc..... | | | |
| 600 | 50 | *Portsea Island* ... | 53 0 0 | 5 0 0 | 45 to 47 |
| 400 | 10 | Prescott..... | 9 0 0 | 4 13 4 | 7 0 0 |
| 3000 | 20 | *Preston* ..... | 20 0 0 | 10 0 0 | |
| | | Pwllheli..... | | | |
| | | *Pudsey* ...£12,000 | | 5 0 0 | |
| | | *Radcliff and Pilkington* £9000 | | 4 12 10 | |
| | | Ramsay, I. of Man | | | |
| | | *Ramsgate*(see I. of T | | | |
| | | Ravenglass ..... | | | |
| 1000 | 10 | *Reading* ..... | 10 0 0 | 4 0 0 | 7 0 0 |
| 500 | 20 | *Reading Union* ... | 20 0 0 | 6 0 0 | 17 0 0 |
| | | Redditch ..... | | | |
| | | Redruth..... | | | |
| | | Reigate ..... | | | |
| | | Retford (East)..... | | | |
| | | Rhyl ..... | | | |
| | | Richmond (Surrey) | | | |
| | | Ringwood ..... | | | |
| | | Ripon..... | | | |
| | | *Rochester and Chatham* £20,000 | | 6 0 0 | |
| | | Rochford ..... | | | |
| | | Rockingham..... | | | |
| | | Romford ..... | | | |
| | | Ross ..... | | | |
| 245 | 25 | *Rotherham* ..... | 25 0 0 | 6 0 0 | 40 10 0 |
| | | Royston..... | | | |
| | | Ruabon ..... | | | |
| | | Rugby ..... | | | |
| | | Rugeley..... | | | |
| | | *Runcorn*... £11,000 | | 7 10 0 | |
| | | Ruthin ..... | | | |
| 500 | 10 | Ryde ..... | 10 0 0 | 6 0 0 | 12 0 0 |
| | | Rye..... | | | |
| | | Romsey ..... | | | |
| | | Saddleworth..... | | | |
| 225 | 20 | Saffron Walden ... | 20 0 0 | 3 15 0 | 19 0 0 |
| | | St. Austel ..... | | | |
| | | St. Asaph ..... | | | |
| | | St. Colomb ..... | | | |
| | | *St. Helen's* £7500 | | 7 10 0 | |
| | | St. Helier's (Jersey) | | | |
| | | St. Ives, Hunting. | | | |
| | | St. Ives, Cornwall | | | |
| 250 | 10 | St. Neot's ..... | 10 0 0 | 8 0 0 | 12 0 0 |
| | | St. Peter's Port, (Guernsey) ..... | | | |
| 320 | 25 | Salisbury ..... | 25 0 0 | 6 0 0 | 28 to 30 |
| | | Sandbach ..... | | | |
| 140 | 10 | Saxmundham ..... | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Scarborough..... | | | |
| | | Sedburgh ..... | | | |
| | | Selby ..... | | | |
| | | Settle ..... | | | |
| 290 | 10 | Sevenoaks..... | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Shaftesbury ..... | | | |
| 5400 | 25 | *Sheffield United* ... | 24 0 0 | 8 6 8 | 30 0 0 |
| | | Shelton, Potteries (see Brit. Prov.) | | | |
| | | Shepton Mallet ... | | | |
| | | Sherborne..... | | | |
| 2914 | 5 | Shields (Tynemth. | 5 0 0 | 3 0 0 | 5 0 0 |
| | | Shields (South) ... | | | |
| | | Shiffnal, Salop ..... | | | |
| 1000 | 5 | *Shipley* ..... ..... | 5 0 0 | 6 0 0 | 5 12 6 |
| | | Shipston-on-Stour | | | |
| | | Shoreham ..... | | | |
| | | *Shrewsbury*£10,000 | | 7 0 0 | |
| 400 | 10 | Skipton ..... | 10 0 0 | 4 0 0 | 11 0 0 |
| | | Sleaford..... | | | |
| 250 | 10 | Slough ..... | 10 0 0 | | |
| | | Snaith ..... | | | |
| | | Soham ..... | | | |
| | | Southwold..... | | | |
| | | South Molton ..... | | | |
| 1000 | 50 | *Southampton* ..... | 32 0 0 | 5 0 0 | |
| | | Sowerby, Yorksh. | | | |
| | | Stretford ..... | | | |
| | | Stokesly..... | | | |
| | | *Stafford* £10,000 | | 5 0 0 | |
| | | Staines and Egham | | | |
| | | *Staley Bdg.*£15,000 | | 10 0 0 | |
| | | *Stamford* £11,250 | | 3 0 0 | |
| | | *Stockton-on-Tees* £7980 | | 9 5 0 | |
| 840 | 9½ | Stockton, New ..... | 9 10 0 | 9 0 0 | 8 0 0 |
| 960 | 10 | Stoke-upon-Trent | 10 0 0 | 7 0 0 | 11 10 0 |
| 500 | 10 | „ new shares | 6 0 0 | 7 0 0 | 7 10 0 |
| | | Stone, Stafford..... | | | |
| | | Stoney Stratford ... | | | |
| | | Stourbridge ..... | | | |
| | | Stowmarket..... | | | |
| 150 | 20 | Stratford-on-Avon | 20 0 0 | 7 10 0 | 30 0 0 |
| | | Stroud ..... | | | |
| 169 | 10 | Swaffham..... | 10 0 0 | 5 0 0 | 5 10 0 |
| | | *Swansea* £9000 | | | |
| | | Sudbury..... | | | |
| | | Sunderland, old.... | | | |
| 6400 | 5 | *Sunderland*, new .. | 5 0 0 | | |
| | | Sutton ..... | | | |
| | | Swindon..... | | | |
| | | Sydenham..... | | | |
| 2800 | 5 | *Taunton*..... | 5 0 0 | None | 2 10 0 |
| | | Tadcaster ..... | | | |
| | | Tamworth..... | | | |
| | | Tavistock..... | | | |
| | | Teignmouth..... | | | |
| | | Tenbury..... | | | |
| | | Tenby..... | | | |
| | | Tenterden £2000 | | 2 10 0 | |
| | | Tetbury, Gloster... | | | |
| | | Tewkesbury ..... | | | |
| | | Thame ..... | | | |
| | | Thetford ..... | | | |
| | | Thirsk ..... | | | |
| | | Thornbury..... | | | |
| | | Thorne..... | | | |
| | | Tiverton ..... | | | |
| 670 | 5 | Todmorden ..... | 3 0 6 | | |
| | | Torquay..... | | | |
| | | Torrington, Devon | | | |
| | | Totnes ..... | | | |
| | | Totnes Consumers | | | |
| 4000 | 5 | Tottenham ..... | 3 10 0 | 6 0 0 | 3 0 0 |
| | | Towcester..... | | | |
| 200 | 10 | Tring ..... | 10 0 0 | 5 0 0 | 10 0 0 |
| | | Trowbridge (see British Provin.) | | | |
| 75 | 50 | Truro ..... | 50 0 0 | 2 0 0 | |
| | | Tunbridge..... | | | |
| | | Tunbridge Wells... | | | |
| | | Ulverston..... | | | |
| | | Uppingham ..... | | | |
| 210 | 5 | Upton-on-Severn ... | 5 0 0 | 5 0 0 | 5 0 0 |
| | | Usk, Monmouth ... | | | |
| | | Uttoxeter..... | | | |
| | | Uxbridge ..... | | | |
| 1000 | 25 | *Wakefield*, old capl | 25 0 0 | 6 0 0 | 25 0 0 |
| 1600 | 5 | „ new „ | 5 0 0 | 6 0 0 | 5 0 0 |
| 300 | 10 | Wallingford ..... | 10 0 0 | 5 0 0 | 8 0 0 |
| | | Wandsworth..... | | | |
| | | Wantage..... | | | |
| | | *Warrington* £23304 | | 10 0 0 | |
| 100 | 10 | Wareham ..... | 10 0 0 | 3 10 0 | 8 0 0 |
| 120 | 25 | Warminster ..... | 25 0 0 | 5 0 0 | 27 0 0 |
| | | Warth ..... | | | |
| | | *Warwick* £15,000 | | 6 0 0 | |
| | | Watford..... | | | |
| | | Welchpool, Mntgy. | | | |
| | | Wellingborough ... | | | |
| | | Wellington, Salop | | | |
| | | Wellington, Smrst. | | | |
| | | *Wells, Smrst.*£5000 | | 7 10 0 | |
| | | Westbury..... | | | |
| | | Weston-sup.-Mare | | | |
| 2000 | 5 | West Ham ..... | 5 0 0 | 6 0 0 | 5 0 0 |
| | | Whitby ..... | | | |
| | | Whitehaven ..... | | | |
| | | Whitstable ..... | | | |
| | | Whittlesea..... | | | |
| | | *Wigan* £10,160 | | 10 0 0 | |
| | | Willenhall..... | | | |
| | | Winchelsea..... | | | |
| | | Winslow ..... | | | |
| 240 | 10 | Wimborne Minster | 10 0 0 | | |
| | | Wincanton..... | | | |
| 360 | 50 | Winchester ..... | 50 0 0 | 6 0 0 | |
| 900 | 12½ | Windsor..... | 12 10 0 | 10 0 0 | 23 0 0 |
| | | Witham..... | | | |
| | | Witney..... | | | |
| 4448 | 10 | *Wolverhampton* ... | 10 0 0 | 7 10 0 | 17 10 0 |
| | | Woburn..... | | | |
| 210 | 10 | Wokingham ..... | 10 0 0 | | 10 0 0 |
| | | Woodbridge ..... | | | |
| | | Wooler ..... | | | |
| | | Wotton-un.-Edge | | | |
| | | *Worcester* £29,000 | | 8 0 0 | |
| | | Workington ..... | | | |
| | | Worksop & Radford | | | |
| | | Wirksworth ..... | | | |
| | | Worthing..... | | | |
| | | Wrexham ..... | | | |
| | | Woolwich Equitbl. | | | |
| | | Woolwich Consms. | | | |
| | | Woolwich (North) | | | |
| | | Wymondham..... | | | |
| | | Yarm ..... | | | |
| 795 | 20 | Yarmouth..... | 20 0 0 | | 15½ to 16½ |
| | | Yeadon, near Leeds | | | |
| | | Yeovil ..... | | | |
| | | *York Untd.*£55,000 | | 7 0 0 | |
| | | **SCOTLAND.** | | | |
| | 5 | Aberdeen ..... | 3 0 0 | | 3 16 6 |
| | | Airdrie ..... | | | |
| | | Alloa ..... | | | |
| | | Annan ..... | | | |
| | | Anstruther..... | | | |
| | | Ardrossan ..... | | | |
| 550 | 20 | Arbroath ..... | 20 0 0 | 7 10 0 | 37 10 0 |
| | | Auchterarder..... | | | |
| 750 | 2 | Auchtermuchty .... | 2 0 0 | 6 0 0 | 2 10 0 |
| | | Ayr, old ..... | | | |
| | | Ditto, new..... | | | |
| | | Banff..... | | | |
| | | Barrhead ..... | | | |
| | | Bathgate..... | | | |
| | | Beith..... | | | |
| | | Bervie ..... | | | |
| | | Biggar ..... | | | |
| | | Blairgowrie ..... | | | |
| 400 | 6 | Borrowstowness ... | 6 0 0 | 5 0 0 | 8 0 0 |
| | | Brechin ..... | | | |
| | | Bridge of Allan ... | | | |
| | 2 | Broughty Ferry ... | 2 0 0 | 5 0 0 | 2 0 0 |
| | | Burntisland ..... | | | |
| | | Callen..... | | | |
| | | Campbelton ..... | | | |
| | | Clackmannan ..... | | | |
| | | Coatbridge..... | | | |
| | | Coldstream ..... | | | |
| | | Collinsburgh ..... | | | |
| | | Crieff..... | | | |
| | | Crail, Fife ..... | | | |
| | | Cumbernauld ..... | | | |
| | | Cumnock ..... | | | |
| 600 | 5 | Cupar Angus ..... | 5 0 0 | 6 0 0 | 5 10 0 |
| 250 | 10 | Cupar Fife ..... | 10 0 0 | 7 10 0 | 14 0 0 |
| | | Dalkeith ..... | | | |
| | | Denny ..... | | | |
| | | Dingwall..... | | | |
| | | Dornoch ..... | | | |
| | | Douglas..... | | | |
| | | Dumbarton..... | | | |
| 400 | 20 | Dumfries ..... | 14 0 0 | 5 0 0 | 20 0 0 |
| | | Dunbar..... | | | |
| | | Dunblane..... | | | |
| | 23¾ | *Dundee*, old£29,587 | 23 15 0 | 8 8 0 | 30 10 0 |

| Number of Shares issued. | Amount per Share | Name of Company. | Amount paid up per Share | Dividend per Cent. per Ann. | Price. |
|---|---|---|---|---|---|
| | £ | | £ s. d | £ s. d | £ s. d |
| 8000 | 5 | *Dundee, new* | 5 0 0 | 4 0 0 | 4 0 0 |
| 860 | 10 | Dunfermline | 10 0 0 | 6 0 0 | 12 12 0 |
| | | Dunkeld | | | |
| | | Dunse | | | |
| | | Dysart | | | |
| 6000 | 25 | *Edinburgh Gas Co.* | 25 0 0 | 10 0 0 | 52 10 0 |
| | 25 | „ *and Leith Co.* £98,640 | 18 0 0 | 7 10 0 | 27 13 6 |
| | | Elie | | | |
| | | Elgin | | | |
| | | Falkirk, old | | | |
| | | „ new | | | |
| | | Falkland | | | |
| | | Ferry Port on Craig | | | |
| | | Fochabers | | | |
| | | Forfar | | | |
| | | Fort William | | | |
| | | Fraserburgh | | | |
| | | Galashiels | | | |
| | | Garlieston | | | |
| | | Gatehouse n. Fleet | | | |
| | | Girvan | | | |
| | 25 | *Glasgow* £122,500 | 25 0 0 | 10 0 0 | 50 0 0 |
| 15000 | 10 | *Glasgow City and Suburban* | 9 0 0 | 7 15 0 | 17 7 6 |
| | | Grangemouth | | | |
| | | Grahamston | | | |
| | | Haddington | | | |
| | | *Hamilton* £7500 | | 8 0 0 | |
| | | Hawick | | | |
| | | Helensburgh | | | |
| | | Huntly | | | |
| | | Inverary | | | |
| 400 | 1 | Inverkeithing | 1 0 0 | 5 0 0 | 1 0 0 |
| 1200 | 10 | *Inverness Gas and Water* | 10 0 0 | 7 10 0 | 15 0 0 |
| 2400 | 5 | „ new shares | 1 5 0 | 7 10 0 | 2 5 0 |
| | | Irvine | | | |
| | | Jedburgh | | | |
| | | Johnstone, near Paisley | | | |
| | | Keith | | | |
| | | Kelso | | | |
| | | Kilmarnock | | | |
| | | Kincardine | | | |
| | | Kinghorn | | | |
| | | Kingskittlo, Fife | | | |
| | | Kinross | | | |
| | | Kirkaldy | | | |
| 320 | 5 | Kirkcudbright | 5 0 0 | 5 0 0 | 5 0 0 |
| 1000 | 3 | Kirkintulloch, near Glasgow | 3 0 0 | 5 0 0 | 3 0 0 |
| 227 | 5 | Kirkwall | 5 0 0 | 5 0 0 | 4 10 0 |
| 518 | 5 | Kirriemuir | 5 0 0 | 6 0 0 | |
| | | Lanark | | | |
| | | Largo, near Leven | | | |
| | | Largs | | | |
| | | Lasswade, n. Edin. | | | |
| | | Lauder | | | |
| | | Leith | | | |
| | | Leslie, Fife | | | |
| | | Lesmahago | | | |
| | | Leven | | | |
| | | Linlithgow | | | |
| | | Linton, n. Nobleh. | | | |
| | | Lochee, n. Dundee | | | |
| | | Lochgilphead | | | |
| | | Lochwinnock, near Paisley | | | |
| 1200 | 1 | Markinch | 1 0 0 | 7 10 0 | 1 5 0 |
| | | Mauchline | | | |
| | | Maxwell-town, n. Dumfries | | | |
| | | Maybole, Ayrshire | | | |
| | | Maryhill, near Glasgow | | | |
| | | Melrose | | | |
| 718 | 2 | Mid & East Calder | 2 0 0 | | 2 0 0 |
| 192 | 5 | Moffat | 5 0 0 | | |
| | 13½ | Montrose | 13 10 0 | 7 11 1 | |
| | | Musselburgh | | | |
| | | Nairn | | | |
| | | Neilston, n. Glasg. | | | |
| | | Newmills, near Kilmarnock | | | |
| | | Newburgh, Fife | | | |
| | | Newton-on-Aye | | | |
| | | Newton Stewart | | | |
| | | North Berwick, n. Haddington | | | |
| | | North Queensferry | | | |
| | | Oban | | | |
| | | Peebles | | | |
| 800 | 25 | Perth | 25 0 0 | 4 16 0 | 22 10 0 |
| | 5 | „ new | 5 0 0 | | 2 7 6 |
| | | Peterhead | | | |
| | | Pittenweem | | | |
| | | Pollokshaws, near Glasgow | | | |
| | | Port Glasgow | | | |
| | | Portobello, n. Edin. | | | |
| | | Prestonpans | | | |
| | | Rutherglen, near Glasgow | | | |
| | | Renfrew, n. Paisley | | | |
| | | Saltcoats | | | |
| | | Sanquhar | | | |
| | | Selkirk | | | |
| | | South Queensferry | | | |
| | | St. Andrew's | | | |
| | | Stewarton | | | |
| | | Stirling | | | |
| | | Stoneheavn | | | |
| | | Stonhouse, Lanrks. | | | |
| | | Stornoway | | | |
| | | Stranraer | | | |
| | | Strathaven, near Hamilton | | | |
| | | Thurso | | | |
| | | Tillicoultry, n. Alloa | | | |
| 800 | 1 | Tranent | 1 0 0 | | 1 0 0 |
| | | Troon | | | |
| | | Wick | | | |
| | | Wigton | | | |
| | | Wemyss | 4 10 0 | | |

## IRELAND.

| Number of Shares issued. | Amount per Share | Name of Company. | Amount paid up per Share | Dividend per Cent. per Ann. | Price. |
|---|---|---|---|---|---|
| | £ | | £ s. d | £ s. d | £ s. d |
| 300 | 10 | Armagh | 10 0 0 | 8 0 | 14 10 0 |
| | | Ballinasloe | | | |
| 700 | 50 | *Belfast* | 50 0 0 | | |
| | | Ballymena | | | |
| | | Ballymoney | | | |
| | | Carrickfergus | | | |
| | | Carlow, new | | | |
| | | Cork (see Un. Gen.) | | | |
| 1300 | 5 | Clonmel Consumrs | 5 0 0 | 5 0 0 | 5 0 0 |
| | | Drogheda | | | |
| 19,000 | 10 | *Dublin Consumers* | 5 0 0 | 7 0 0 | 6 0 0 |
| | | *Dublin Hibernian* (see United Gen.) | | | |
| 160 | 25 | Dundalk | 25 0 0 | | 22 0 0 |
| | | Dungannon | | | |
| 871 | 5 | *Downpatrick* | 5 0 0 | 4 0 0 | |
| | | Enniskillen | | | |
| | | Galway | | | |
| 400 | 10 | Kilkenny | 10 0 0 | 8 0 0 | 11 5 0 |
| | | Larne | | | |
| | | Limerick (see U.G.) | | | |
| 1725 | 5 | Limerick Consum. | 5 0 0 | 5 0 0 | 5 0 0 |
| 600 | 15 | Londonderry | 15 0 0 | 6 13 4 | 21 10 0 |
| 500 | 7 | Lisburn | 7 0 0 | 7 10 0 | 7 0 0 |
| 520 | 10 | Lurgan | 6 0 0 | 6 0 0 | 6 0 0 |
| | | Mallow | | | |
| | | Monaghan | | | |
| | | Nenagh | | | |
| 448 | 5 | Newtownards | 5 0 0 | 4 0 0 | 5 0 0 |
| | | New Ross | | | |
| | | Newry | | | |
| | | Omagh | | | |
| 125 | 20 | Portadown | 20 0 0 | 6 0 0 | 20 0 0 |
| 600 | 10 | Sligo | 10 0 0 | | |
| | | Tipperary | | | |
| | | Tralee | | | |
| | | Waterford | | | |
| | | Wexford | | | |

The Gas Works in the undermentioned towns belong to private individuals:—

| | | | | | |
|---|---|---|---|---|---|
| Abergavenny. | Ely. | Hertford. | Northfleet. | Seaham Harbour. | Ware. (2 works) |
| Bridgenorth. | Farsley. | Holt. | Oswestry. | Sheerness. | Wem. |
| Carnarvon. | Gainsborough | Huntingdon. | Peterborough. | Sidmouth. | Weymouth. |
| Chester, new. | Goole. | Hyde (Cheshire) | Pontypool. | Sittingbourne. | Whitchurch (Salop). |
| Deal. | Harleston. | Kingston-on-Thames. | St. Alban's. | Spalding. | Wisbeach. |
| Diss | Hatfield. | Lynn. | Sandwich. | Waltham Abbey. | |

The Gas Works belong to the Corporations, or to Commissioners acting under special acts of Parliament, in the following towns:—

| | | | | | |
|---|---|---|---|---|---|
| Carlisle. | Keighly. | Milton (Kent). | Rothesay. | Southport (Lanc.) | Walsall. |
| Cashel. | Knaresborough. | Paisley. | Richmond (Yorkshire). | Stockport | Wells (Norfolk). |
| Coleraine. | Lytham (Lanc.) | Rochdale. | Salford. | Strabane. | Youghall. |
| Greenock. | Manchester. | | | | |

# Price Current.

*The following List of Prices is corrected by an eminent wholesale house in each trade up to the latest period:—*

## CASTINGS, per Ton.

Average Weight of Cast Iron Gas Pipes, per Yard.

| 1¼ in. | 2 in. | 2½ in. | 3 in. | 4 in. | 5 in. | 6 in. | 7 in. | 8 in. | 9 in. | 10 in. | 12 in. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 21 | 28 | 33 | 51 | 70 | 89 | 107 | 126 | 149 | 177 | 208 lbs. |

| Retail Prices are 5 to 10 per cent. higher. | London. | Glasgow | Newcastle. | Wales. | Yorksh., Derbysh., and Staffrdsh. |
|---|---|---|---|---|---|
| | £ s. d. | £ s. d. | £ s. d. | £ s. d. | £ s. d. |
| Pig Iron, No. 1 | 3 7 6 | 2 5 0 | 3 0 0 | 3 15 0 | 3 10 0 |
| 1¼ and 2 inches Socket Pipes | 6 5 0 | 5 0 0 | 5 10 0 | 5 15 0 | 5 15 0 |
| 2½ and 3 do. do. | 5 17 6 | 4 15 0 | 5 7 6 | 5 12 6 | 5 12 6 |
| 4 and 5 do. do. | 5 15 0 | 4 12 6 | 5 5 0 | 5 10 0 | 5 10 0 |
| 6 inches and upwards do. | 5 12 6 | 4 10 0 | 5 2 6 | 5 7 6 | 5 7 6 |
| Extra for bends, branches, and connection | 2 0 0 | 2 0 0 | 2 0 0 | 2 0 0 | 2 0 0 |
| Retorts, 1st fusion | 5 5 0 | .. | .. | 4 17 6 | 5 0 0 |
| Do. 2nd fusion | 5 15 0 | 4 10 0 | 4 17 6 | 5 5 0 | 5 5 0 |
| Tank Plates, ⅜ thick and above | 5 10 0 | 4 17 6 | 5 0 0 | 5 7 6 | 5 17 6 |
| Do. less than ⅜ | 5 15 0 | 5 0 0 | 5 0 0 | .. | 5 10 0 |
| Plain Castings ex. models | 5 15 0 | 5 0 0 | 5 0 0 | 5 10 0 | 5 10 0 |

## COALS.

| NEWCASTLE. Unscreened. | s. | d. | |
|---|---|---|---|
| Whitwell Primrose | 4 | 6 | per ton. |
| Burnhope | 5 | 3 | „ |
| Dean's Primrose | 5 | 9 | „ |
| Pelton, Brancepeth, Medomsley | 6 | 0 | „ |
| Pelaw | 6 | 3 | „ |
| Eighton Moor, Felling Main, New Pelton, Peareth, South Pelaw, Waldridge, Washington Hutton, South Peareth | 6 | 6 | „ |
| Ramsay's Cannel | 12 | 0 | „ |
| Cowen's Cannel | 12 | 0 | „ |

| DERBYSHIRE. | |
|---|---|
| Clay Cross, Deep Main, and New Birchwood | 6s.6d. per ton. |

| SCOTCH CANNEL. | | |
|---|---|---|
| Boghead | 19 0 | „ |
| Kirkness best | 23 0 | „ |
| Capeldrae, first quality | 20 0 | „ |
| Ditto, second quality | 10 0 | „ |
| Lothian | 18 0 | „ |
| Lesmahago at Glasgow | 16 6 | „ |
| Ditto at Leith | 18 0 | „ |
| Arniston | 16 0 | „ |
| Wemyss | 15 0 | „ |
| Donibristle | 10 6 | „ |
| Bridgeness, Kinneil | 11 0 | „ |
| Knightswood | 10 0 | „ |
| Lochgelly, Lumphinan | 9 6 | „ |

## FIRE GOODS.

Best Bricks, 50s. per 1000, at Newcastle.
Do. Clay, 12s. per ton do.

## LEAD.

Soft pig, £18. 10s. per ton.

## WROUGHT IRON TUBING, subject to 40 per cent. Discount.

| | 2 inches. | 1¼ inch. | 1¼ inch. | 1 inch. | ¾ inch. | ½ inch. |
|---|---|---|---|---|---|---|
| | s. d. | s. d. | s. d. | s. d. | s. d. | s. d. |
| Patent welded tubes, from 2 to 12 feet, per foot | 1 8 | 1 0 | 0 10 | 0 7 | 0 5 | 0 4½ |
| Ditto „ 6 in. to 18 in., each | 3 0 | 2 0 | 1 9 | 1 3 | 1 0 | 0 9 |
| Connecting pieces, or long screws | 3 6 | 2 3 | 2 0 | 1 6 | 1 2 | 0 11 |
| Bends, springs, and elbows, wrought iron | 3 9 | 2 3 | 1 9 | 1 0 | 0 10 | 0 8 |
| Tees, wrought or cast | 4 0 | 2 6 | 2 0 | 1 6 | 1 1 | 0 10 |
| Crosses, wrought or cast | 4 6 | 3 0 | 2 6 | 2 0 | 1 6 | 1 2 |
| Iron cocks | 17 6 | 9 6 | 7 6 | 4 6 | 3 3 | 2 6 |
| Ditto, with brass plug | 28 0 | 16 0 | 13 0 | 7 0 | 5 6 | 4 6 |
| Diminishing sockets, caps, plugs, and nipples | 1 3 | 0 9 | 0 8 | 0 6 | 0 5 | 0 4 |
| Plain sockets | 1 0 | 0 8 | 0 7 | 0 5 | 0 4 | 0 3 |
| Flanches | 1 9 | 1 6 | 1 3 | 1 0 | 0 9 | |
| Syphons, 2 quart | 15 0 | 14 0 | 13 6 | 13 0 | 12 0 | |
| Ditto 1 quart | 11 6 | 10 6 | 10 3 | 10 0 | 9 6 | |

## FREIGHTS, per Ton.

| *Coastwise—Newcastle.* | s. | d. |
|---|---|---|
| Chatham & Roches. | 6 | 0 |
| Cork | 8 | 0 |
| Dover | 7 | 0 |
| Dublin | 8 | 6 |
| Exeter Quay | 8 | 6 |
| Folkestone | 7 | 0 |
| Hastings | 7 | 6 |
| Ipswich | 6 | 3 |
| Jersey | 8 | 0 |
| London | 6 | 0 |
| Lowestoft | 4 | 6 |
| Lynn | 6 | 0 |
| Margate | 7 | 3 |
| Portsmouth | 7 | 6 |
| Plymouth | 7 | 3 |
| Southampton | 7 | 3 |
| Weymouth | 8 | 0 |
| Yarmouth | 5 | 0 |
| *Foreign.* | | |
| Amsterdam | 9 | 0 |
| Boulogne | 7 | 0 |
| Barcelona | 14 | 0 |
| Bordeaux | 10 | 0 |
| Calais | 7 | 0 |
| Dieppe | 7 | 6 |
| Hamburg | 7 | 6 |
| Havre | 8 | 0 |
| Lisbon | 10 | 0 |
| Rotterdam | 7 | 6 |
| Rouen | 11 | 0 |
| St. Petersburgh | 11 | 6 |
| Stettin | 8 | 6 |
| Trieste and Venice | 18 | 0 |

## GWYNNE'S DIRECT-ACTING BALANCED CENTRIFUGAL PUMP.

CONSTRUCTION AND DUTY.

This Pump has a rotary movement, and works without valves, eccentrics, or other contrivances which consume power in friction.

It discharges a quantity of water fully equal, under favourable circumstances, to 90 per cent. of the driving power—a result attained by no other pump.

Its economy in use, simplicity of construction, durability, and exemption from the ordinary liabilities of wear, tear, and accident, are apparent on examination. Its cost, measured by the proportionate quantity of water discharged, is below that of all other pumps now used.

APPLICATIONS.

This Pump is all that can be desired for a Fire Engine; and its economy of power, ease of motion in working, the great distance to which it will force water, and the certainty of its being at all times ready for use, render it equally valuable to the city and the town; the shipowner and the manufacturer.

ADVANTAGES.

It is particularly adapted for the elevation of water to great heights. In all pumps hitherto constructed, as the pressure (or height) of the column increases, the loss by leakage, if the valves, valve-boxes, or pistons are not perfectly tight, also increases proportionately; and, if they are, the friction is so great as to consume the principal part of the power employed, leaving but little for efficient action on the rising column. This difficulty is overcome in the Direct-Acting Centrifugal Pump, and, the flow of water being continuous, loss of power by inertia is prevented, as well as the great wear and derangement of machinery, which, in reciprocating pumps, are unavoidable, notwithstanding the attachment of large and costly air-vessels, which are wholly dispensed with in this pump.

All rotary pumps, working with surfaces in contact, are speedily destroyed by sand, mud, or other foreign matters in the water; but none of these cause injury to this pump. The larger sizes will admit the passage of solid substances of 1¼ inch in diameter, and others in proportion. Those designed for vessels are so arranged as not to be choked by corn, chips, raw turpentine, coal of small size, paper, pulp, sand, &c. Ship owners and masters will, therefore, appreciate its peculiar value to them.

No correct opinion can be formed of the economical efficiency of this pump, except by a regard to the four conditions essential to a proper estimate of the action of any hydraulic machine; viz., the POWER employed, the QUANTITY of water raised, the HEIGHT to which it is raised, and the TIME required to raise it, in all of which respects it is superior to any other one in use. The public will, therefore, not fail to subject the Balanced Pump to the severest scientific tests of which the subject is capable, for the Proprietor is determined that its claims to public adoption shall rest solely upon its merits.

The Proprietor of the Patent Balanced Centrifugal Pump, having had extensive experience of its superior powers, recommends it with entire confidence, guaranteeing its perfect adaptation for Steamboats, Ships, and Vessels of every description; Manufactories, Paper Mills, Tanneries, Works of Drainage and Irrigation, Coffer-dams, Dry Docks, Mines and Quarries, Fire-engines, Railroad Water-stations, &c.

SIZES AND VARIETIES.

Regular sizes of the Pump, embracing 18 varieties, and capable of discharging from 25 gallons up to 21,000 gallons per minute, and to any height not exceeding 480 feet; and extra sizes, up to 100,000 gallons per minute (or to any required elevation—no matter how great), for draining Marshes, Dry Docks, supplying Canals, or for Water-works for large cities, will be furnished on reasonable notice.

An extra size, No. 1 C, is supplied for throwing 2000 gallons per minute to all heights up to 50 feet, especially adapted for Coffer-dams and Sunken Ships, very strong and portable, and made, if desired, to run upon truck wheels. MODES OF DRIVING.

The smaller sizes are arranged to be driven by hand or steam, and the larger ones by horse, ox, wind, water, or steam, as may be required.

GWYNNE'S PATENT DOUBLE-ACTING BALANCED PRESSURE WHEEL.—The new Double-Acting Balanced Pressure Wheel is a modification of the Tourbine, with such additions and improvements as make it the most perfect wheel for all circumstances which it seems possible to desire. It prevents the waste of power attendant on the use of any of the machines we have enumerated; it works both with the flux and reflux of the tide; and it is of greater power than any other wheel, as will be seen from the following comparison:—

| Wheel. | Economy of power. |
|---|---|
| Undershot | about 33 per cent. |
| Breast | „ 55 „ |
| Overshot | „ 70 „ |
| Tourbine | „ 80 „ |
| Gwynne's Double-Acting | „ 85 „ |

Possessing these paramount advantages, GWYNNE'S DOUBLE-ACTING BALANCED PRESSURE WHEEL is offered to the public in the confidence that, both commercially and practically, it will be found to give satisfaction where adopted, and to secure the following advantages:—

First:—A great saving in the amount of water consumed by the best wheels now in use.

Second:—A saving of 33 to 50 per cent. on the first cost; the amount varying, of course, with the situation in which the wheel might be placed.

Third:—The advantage that, when used as a tidal wheel, it would maintain a continuous movement, both with the rise and fall of the tide; giving, in cases in which the load is proportioned to the head of water, a nearly uniform motion to the machinery.

Fourth:—The desideratum, so long needed, that when erected on mill-streams subject to floods or large accumulations of back-water, its operation is as perfect as under the most favourable circumstances.

Last:—A perfect adaptability to all situations, and a simplicity, compactness, and stability of construction, by which a non-liability to get out of order is guaranteed.

Orders for the Pump, and applications for Licenses, to be addressed to Mr. JOHN GWYNNE, at the Office, No. 1, Agar-street, Strand, where tables of prices, &c., may be obtained.

## GEORGE and SAMUEL CUTLER,

GASHOLDER AND BOILER MAKERS,

No. 21, WHARF-ROAD, CITY-ROAD, LONDON.

Contracts for Tanks, Gasholders, Roofs, Purifiers, and all descriptions of Gas Apparatus executed on the most reasonable terms. Slide Valves, Steam and Range Boilers, and Smiths' Work, of the best materials and workmanship.

## JOSEPH BOULTON, Gas Meter

Manufacturer, No. 1, COPPICE-ROW, CLERKENWELL, LONDON, begs to call the attention of Gas Companies and the public in general to his improved GAS METER, containing all the latest improvements.

J. B. warrants all Meters to be manufactured of the best materials and workmanship, the wheels, &c., being of metal. Old Meters repaired on the lowest terms.

## F. & C. OSLER,

44, OXFORD-STREET, LONDON;

*Manufactory—Broad-street, Birmingham,*

MANUFACTURERS OF GLASS CHANDELIERS, GLASS LUSTRES, TABLE GLASS, &c. &c.

ELEGANT CRYSTAL GLASS CHANDELIERS, FOR GAS

(Made from "REGISTERED" DESIGNS), with GLASS BRANCHES, &c.; suitable for DRAWING-ROOMS and BALL-ROOMS. The more extensive use of GAS in private dwellings has induced Messrs. OSLER to direct their particular attention to the manufacture of this class of articles—which, with a view to their general adoption, are offered at very moderate prices. Purchasers can select from a great variety of patterns, to which additions are being constantly made.

THEATRES, CONCERT, ASSEMBLY, AND BALL ROOMS LIGHTED BY ESTIMATE ON THE LOWEST TERMS.

## GUTTA PERCHA TUBING FOR THE CONVEYANCE OF GAS.

THE GUTTA PERCHA COMPANY HAVE BEEN FAVOURED WITH THE FOLLOWING TESTIMONIALS:—

### From George Riseley, Esq., Hotwells, Bristol.

"The Gutta Percha Tubing that I purchased of you for the temporary Gas-fittings required for the Mayor's Ball at the Victoria Rooms has answered the purpose admirably; its lightness enabled me to attach it to the permanent fittings without the slightest risk of injury to them, and its flexibility to wind and twist it with ease to the different figures and burners where the gas was required. I do not perceive that the gas has had any effect on the material, except to leave the same unpleasant smell that it does in other pipes. Among the varieties of my stock, and in the business of temporary fitting and decorating, I consider it quite an acquisition."

### From the Glasgow Gaslight Company.

JAMES RITCHIE, MANAGER.

"A piece of the Gutta Percha Tube you furnished me with was connected to the gas pipes in this office, and was continued with the pressure on it for fifteen months, day and night, without being the least dissolved or affected by the action of the gas. I, therefore, consider the Gutta Percha Tubing a very valuable article for the conveyance of Gas in peculiar situations."

Every variety of Gutta Percha Articles, such as Soles for Boots and Shoes, Mill-bands, Picture-frames, Brackets, Mouldings, Pen-trays, Inkstands, Medallions, Surgical Instruments, Vases, Trays, Watch-stands, Cups, Flasks, Lathe-bands, Clothes-lines, Cricket and Bouncing Balls, Pump-buckets, Chamber-bowls, Washing-basins, Tubing for Gas, Water, and Speaking Pipes, Sheets for Lining Tanks, &c., Cash-bowls, Ornamental Flowerpots, Soap-dishes, &c., manufactured by

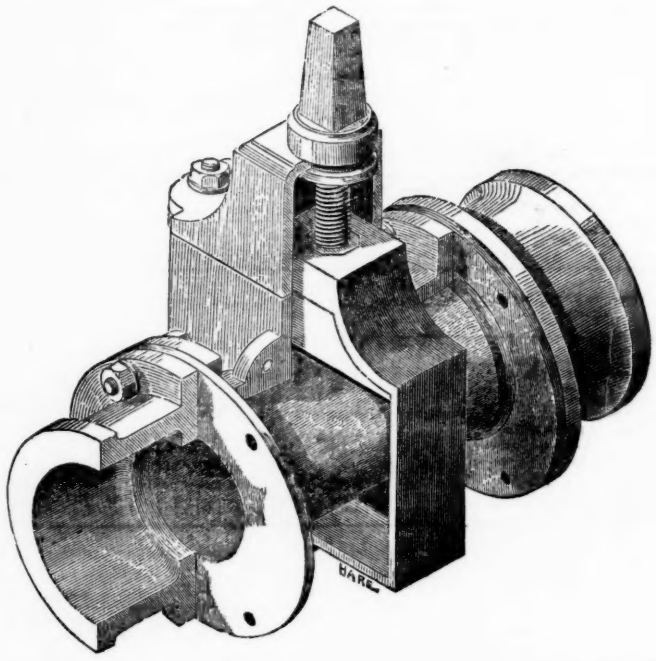
**The Gutta Percha Company, Patentees,**

18, WHARF-ROAD, CITY-ROAD, LONDON,

And Sold by their Dealers in Town and Country.

## JENNINGS' INDIA RUBBER TUBE MAIN COCK.

(*In Section.*)



These Cocks, from the smallest size up to 24 inches in the bore, are all made from elastic tubes, strengthened so as to withstand the greatest pressure, and every Cock is warranted to remain sound for seven years.

As the gas or water is confined to the tube, the working parts are always free, and the Cock, when open, as shown above, forms a straight and continuous pipe. References of the highest order can be given, and Descriptive Drawings of Jennings's other Inventions can be had free, on application to

GEORGE JENNINGS,

29, GREAT CHARLOTTE-STREET, BLACKFRIARS-ROAD, LONDON.